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BIOGRAPHIC CLINICS

GOULD

BIOGRAPHIC CLINICS

VOLUME II

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THE ORIGIN OF THE ILL HEALTH
OF
GEORGE ELIOT, GEORGE HENRY LEWES, WAGNER,
PARKMAN, JANE WELCH CARLYLE, SPENCER,
WHITTIER, MARGARET FULLER OSSOLI,
AND NIETZSCHE

BY

GEORGE M. GOULD, M.D.

Editor of AMERICAN MEDICINE, Author of "An Illustrated Dictionary of Medicine,
Biology, etc.," "Borderland Studies," "The Meaning and
Method of Life," etc.

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By GEORGE M. GOULD, M.D.

PREFACE.

THE first volume of the studies of the ill-health of De Quincey, Carlyle, Darwin, Huxley, and Browning, was issued one year ago under the title, *Biographic Clinics*. Its reception by the leading medical journals was not flattering or encouraging. The official spokesmen of the profession either kept silent, gave a perfunctory notice of the book for the sake of duty or courtesy, hinted dissent, were as cynical as their doubts or kindness would permit, or were downrightly contemptuous. A few went to extremes which, I trust, they may now regret. Almost all critics were fully convinced that the author was "possessed by a theory," as one said, or was so infatuated with the partial truth represented by his specialty that he had lost the desirable judicial quality of mind possessed by the reviewers. There were only a few that welcomed and assented. But there was hardly one that summarized for readers a clear and satisfactory statement of the thesis, facts, and arguments of the book. The members of the profession are therefore not in possession of the facts, because, as I think, of the malfunction of their journalists and reviewers. For this reason I have thought it my duty to continue the studies and to gather a new series

into a second volume. The truth is too important to the profession and to the world, especially to its literary workers, to allow the neglect of the past generation to be continued for another. I am entirely convinced that instead of exaggeration I have underestimated the tremendous importance and extent of the morbid factor called eyestrain. The profession must be made to realize the enormity of the mistake it has made in ignoring the truth for the past thirty years. It is more than strange that this professional crime—for such it is—should be most grievous precisely in those medical specialists from whom one would naturally expect the speediest and frankest acceptance,—I allude to the neurologists and ophthalmologists. From the former class no word of consent or consideration has reached me, and from the oculists I know of but few who have assented even with qualification. The two principal ophthalmic journals of the United States have not concealed the bitterness of their feelings against this contention. If I did not understand the reason for all this I should be discouraged and possibly scornful, but I am neither.

Part of the reason for the neglect is due to the fact I have intimated in an appendix to the present volume. General physicians have sent their patients to the oculist and there was no relief of the systemic symptoms. That is really a harsh arraignment of the professional

ability of the specialist. It surely does not lessen our responsibility as medical men.

Another reason for the professional neglect lies in the very habit of neglect itself. This was originally due to the former absolute ignorance of the physiology of vision. Whatever is utterly incomprehensible is put aside and no longer considered. It is so with mentation, sensation, gravitation, the origin of matter, etc. Thus was generated the habit of thoughtlessness of the eye. Horsemen and farriers study the horse's feet and the art of shoeing. Athletes pay great attention to muscles, lungs, digestion, etc. The laws of sound and the education of the ear are diligently attended to by the musician; the dynamo by the electrician, and so on. But the man whose civilization, work, and personal life depend upon the use of an optical organ put to service fifteen hours every day, cares nothing for optics, and least of all for physiologic optics!

But undoubtedly the greatest reason for the professional neglect is that we have been driven to it by the more absorbing interest, and the seeming greater success of other medical studies. The Zeitgeist, alas, rules even the minds of professing scientists, and fashions and prejudices in medicine are the rule. At present surgery, together with organic and infectious diseases, are the only subjects that interest medical minds. Morbid physiology or functional disease does not apparently concern us as a profession. But there are

two classes in the world whom these neglected affections do most vitally concern—the patient and the quack. It is noteworthy that intelligent lay journals into whose hands it has fallen have given better summaries of the book, and more frank recognition of its truths than professional journals and men. Not only is the profession thus encouraging lay revolt, but semi-insane faddism and quackery. The absurd “mental healers,” “faith-curers,” “vibralogists,” eddy-ites, osteopaths, the patent medicine venders with their million dollar syndicates, and, last and not least, the quack opticians and “eyes-examined-free” spectacle peddlers, are gathering in the multitudes of victims of functional disease which we as a profession have been waving aside as beneath scientific attention. We are practically telling the plagued general practitioner, Go into advertising and quackery if you wish for success! And surely those who hearken to the suggestion and obey get what they seek. Is it well to go on longer in that way? It is most dangerous and the disastrous results are already too evident. Those who realize this fact must at whatever sacrifice give their warning.

About 300 years ago a great physician, Le Pois, in studying medicine, found that he had what was then, and still is called “migraine.” He endured these attacks of sickheadache for four years and then gave up work and went to Italy, as so many have done since. Like these he found relief in the open air and in walking.

Thinking he was cured of the mysterious disease, he returned to practice but at once with use of his eyes his sickheadaches returned. His studies on the disease, like those of all subsequent physicians, and in accordance with the experience of patients, were valueless because he did not observe that use of the eyes in literary work, etc., caused the attacks. A thousand books and articles have been written since in which the same lack of observation has been the cause of all the ignoring of the ocular function in the production of "migraine." In the latest and greatest works on the subject (Allbutt, the great French dictionary, etc.) there is not a word about malfunction of the eyes.

For a month or two last year the London daily papers published a multitude of letters and editorials upon "Brain-fag." To an oculist it was evident from the symptoms described that this amazingly common disease was unrecognized eyestrain and its effects. In all except two letters the etiology and therapeutics recommended were worthy of medieval physicians.

Long ago, once more, another physician was scientifically interested in the malady, which in his studies abroad he had supposed was a rare disease. Upon his return to his native country he found that his friends and patients were frequently afflicted with it, and especially that everywhere about him were silent, uncomplaining, and often poor people, enduring the misery without attempt at or hope of cure. It has been so

ever since, and today it remains so. These patients have learned that from medicine or medical men there is no help, and in dumb suffering they drag on their weary lives. All the great books on the affection by the scientific men, all their clinical experiences with the disease end in the confession that its cause and nature is unknown, and that there is no cure. Contradictions and contradictory theories abound, and there is no agreement even as to what are the symptoms of the disease. All is chaos, ignorance, and incurability, and the millions of sufferers from "migraine" have also concluded that it is a ridiculous and meaningless name for an unknown disease, of unknown etiology, and for which there is no cure. And yet a few drops of a mydriatic in the eyes will cure it—temporarily of course, and nonuse of the eyes will prevent it; a wrong pair of spectacles will cause it, and right ones will cure it. Thousands have been cured by the right ones, but in such patients let a lens get reversed, or the astigmatism change (as it will in a year or two) and the disease will again recur until the ametropia is once more properly corrected. This mystery and opprobrium of medicine can easily be cleared up whenever any "scientist" may wish.

Lastly may be noted the universal complaint in all modern literary criticism of the pessimism which seems with its gloom and dejection to color half the literature of our time. Melancholy, morbidity, and despair, are

PREFACE.

xi

the confessed results of "migraine." How many of the world's great writers have had migraine? How inevitably in a certain proportion the very work of their writing produces "migraine."

TABLE OF CONTENTS.

	PAGE.
PREFACE	v
CHAPTER I. EYESTRAIN AND THE LITERARY LIFE	9
CHAPTER II. GEORGE ELIOT	55
CHAPTER III. GEORGE HENRY LEWES	85
CHAPTER IV. WAGNER	93
CHAPTER V. PARKMAN	129
CHAPTER VI. JANE WELSH CARLYLE	203
CHAPTER VII. SPENCER	239
CHAPTER VIII. WHITTIER	251
CHAPTER IX. MARGARET FULLER OSSOLI	269
CHAPTER X. NIETZSCHE	283
CHAPTER XI. EYESTRAIN AND CIVILIZATION	323
APPENDIX. SIXTY-EIGHT REASONS WHY "GLASSES DID NOT GIVE RELIEF"	359

CHAPTER I.

EYESTRAIN AND THE LITERARY LIFE.¹

By means of the glimpses I could obtain from biographic and autobiographic writings, I have made a study of the disease of fourteen patients who lived in the last century. These were De Quincey, Carlyle, Mrs. Carlyle, Darwin, Huxley, Browning, Wagner, Parkman, Whittier, Spencer, George Eliot, Lewes, Margaret Fuller Ossoli, and Nietzsche. If we fuse the data thus gained into a composite clinical photograph the lessons become more clear and striking. In varying admixture and degrees the symptoms of these patients were headache, insomnia, "biliousness," sick-headache, "nervousness," dejection, indescribable suffering, inability to do literary work without producing these symptoms, and relief of the symptoms whenever, even for a day or a few hours, literary work was stopped, and entire cessation of the characteristic symptoms at about 60 years of age. Here we have a definite clinical picture that differentiates the fundamental pathologic condition from that of any other disease.

¹Read before the Canadian Medical Association, August 25, 1903, and published in the *British Medical Journal*, September 19th and 26th, and in the *Canada Lancet* of October, 1903.

The symptoms were briefly, and without quotation marks, as follows:

Of De Quincey: Pain in the head beginning at 14; violent twitchings of the stomach during sleep, at 17; neuralgic affection at 18 or 19; nervous horror; irritation of the stomach; gastralgia; illness, dejectedness; biliousness, wretchedness, dizziness; a nervous malady of a very peculiar character; insomnia. The digestive difficulty was predominant.

Of Carlyle: Dyspepsia; torture as of a rat gnawing at the pit of the stomach; bad health; nervous disorders; insomnia; biliousness; melancholy; cardiac symptoms. The dyspepsia was the leading complaint.

Of Mrs. Carlyle: Sickheadache, nervous sufferings, insomnia. Hers was a case of life-long sickheadache.

Of Darwin: Dispiritment; pain and palpitation about the heart; sea-sickness; illness; inability to do literary work; disordered stomach; prostration of strength; sickheadache; vomiting; insomnia; headache; great weakness. The digestive organs were those principally affected.

Of Huxley: Hypochondriacal dyspepsia; cardiac symptoms; unaccountable prostration; liver; headache; flatulent dyspepsia; mental depression. A case again of almost typical sickheadache.

Of Browning: Headache; confused cerebral symptoms; depression; dizziness; deranged liver; nervous

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excitability. This was a case of almost simple headache.

Of Wagner: Feeble stomach; sickheadache; extreme depression; cardiac symptoms; insomnia; shattered nerves; intense irritability; violent headache. A martyr to sickheadache.

Of Parkman: Dyspepsia; stirred-up head; photophobia; the greatest inability to use the eyes in literary work; insomnia; insanity feared on the part of friends and physicians. Mental, ocular, and cerebral symptoms dominant.

Of Whittier: Delicate health; great weakness; depression; palpitation of the heart; influenza; headache; weariness; rheumatism; cerebral symptoms; neuralgia; insomnia. Headache, physical weakness and sensitiveness were continuous from early manhood to the completion of presbyopia.

Of Herbert Spencer: Insomnia; inability to use the eyes except for short periods; queer feelings in the head. Insomnia was the chief complaint, others plainly being avoided by astute precautions.

Of Margaret Fuller: Headache, vertigo, nervous exhaustion; martyrdom to ill-health; insomnia; pain in the head.

Of George Eliot: Sickheadache, with use of the eyes.

Of George Henry Lewes: Sickheadache, with use of the eyes.

Of Nietzsche: An intensification of almost all the symptoms in the preceding cases, especially the ocular and cerebral ones, with final ending in "atypical paralysis."

The Strange Mystery of the Disease of the Fourteen must strike one even with a hasty glance over their "biographic clinics." This lack of cause or reason for their sufferings struck each one, and pages of excerpts might be gathered showing their wonder. An unseen and malignant enemy or fatality seemed seated above them or at the very heart of their being, implacable and inexplicable. To their physicians they turned with beseeching question, and imploring aid. Some spent a great part of their lives in going from one doctor to another, or in testing quackery, in traveling for hoped relief anywhere, by "change of climate," "change of scene," etc. Most of them tormented themselves all their lives in dieting, and two gave much of their life to the hydropathic delusion. In every case the one fact stands out clearly, and it could be verified by any number of quotations, that their miseries were consequent directly and quickly upon use of their eyes in writing or reading, and yet not one of them, while repeatedly chronicling the fact with his own pen, ever caught a hint of the causal nexus.¹

¹ Since the Wagner paper was published, and since this article was written, Mr. Ellis, the biographer of Wagner, in a letter just received, tells me he has found an exception to

That Mrs. Carlyle should have read in bed until the early morning hours and then have taken morphin to stifle the direct results of suffering; that Nietzsche should have taken two big trunks full of books with him when, broken down by eyestrain, he resigned his professorship; that each one told of his torture during reading or writing, and not have seen that it was the reading or writing caused it—all this is amazing. But it is the daily story in the oculist's office. That lay scientists and professional observers, as they might be termed, should have been incapable of perceiving the fact is as strange as it is pathetic. That their physicians should not have done so is as strange as it was inexcusable. The reason for the blunder of both patient and doctor is to be sought in deficient closeness and accuracy of observation, and consisted in a threefold error.

Three Inaccuracies of the Patients and of their Physicians. The first was to ascribe the disease to the organ in which the symptoms appeared or seemed to be most manifest. This folly still dominates much treatment today and underlies many errors in our pathology. Despite a thousand proofs of the fallacy, this statement, showing a passing recognition on Wagner's part of the relation between eyes and dyspepsia. In a letter to F. Heine, Wagner writes, April 30, 1853, "Kurire deinen Bauch um der Augen Willen,"—"Cure your belly for the sake of your eyes." Note also the partial exception in the case of Nietzsche's physicians.

it seems ineradicable. We acknowledge in words that the organism is a unit with absolutely interdependent parts, and yet we go on practically oblivious of the truth of the old fable of the belly and its members. When we vividly realize that distressing symptoms in an organ may have their origin in another and even in distant organs, we shall make an instant and tremendous advance in practical therapeutics. "Doctor, do you think it is my nerves?" is the primitive pathology of the simple, and is the exact counterpart of that which always traces headache to brain disease only, or digestive troubles solely to diseases of the stomach.

The second faulty observation consisted in thinking that intellectual labor *per se*, or an over-amount of it, caused the symptoms. Patients and scientists forgot that in the great majority of intellectual people it was and is not so. Humboldt, for instance, is said to have worked with his eyes about 20 hours a day during his long life. In the twelve patients mentioned it was not the working of the intellect, or the amount of it, that gave pain, but simply an accident of that labor, a certain mechanical, or, shortly, optical part of it, that produced the symptoms.

The third observational mistake occurred in thinking that the "change of scene" everlastingly advised, or "change of climate," or the walking, riding, visiting, etc., of itself, caused the relief. Again, this relief

was merely an accident of the out-door life. Thousands of others did not require the change, and the relief of the sufferers was due to nonuse of the eyes at near-range work; if the cause was put in action, the symptoms recurred whenever and wherever the patient was. *Post equitem sedet atra cura.*

The Disease was Functional. De Quincey's physicians said he had "gastrodynia," a name utterly without pathologic meaning to the physicians of the past, or indeed of the present. All the patients had more or less severe gastric symptoms; in some it was the chief, called by various names, such as nausea, vomiting, biliousness, dyspepsia, liver, etc. The modern gastrologist knows nothing of these symptoms except as the results of errors of diet, or of organic disease. Some modern surgeons would even go so far as to trace them all to gastric ulcer, for which operation is the only cure. In 1903 a grave medical journal, the *Medical News*, has said editorially that even obscure gastric symptoms demand gastrotomy and excision of the ulcers. The answer to that, of course, is, first, what caused the ulcers? Secondly, it is surgical monomania. Such a modern surgeon would surely have gastrotomized our fourteen patients. That affliction at least was spared them! That the disease of all these patients was functional is demonstrated by the fact that the majority of them lived to the average or more of three score years and ten, and that it

disappeared at the beginning of old age, precisely and illogically when the general vital powers were lessening toward death.¹ The older each lived after this the freer he became from the peculiar kind of suffering which had made middle life so wretched. In the year 1902 a physician most well-informed—at least, expert in other matters—traces to climacteric melancholia, plus heredity, plus neuroticism, the tragedy of one of these twelve, and adds that we call diseases functional because we cannot observe the minute anatomic or organic changes which underlie all such conditions. This seems to me a more foolish pathology than that which said simply “gastrodynia,” and let it go at that. Are there organic tissue changes in seasickness? That is a very real disease while it lasts. Why does it last so short a time? What caused the changes?

The Variation of the Symptoms. It is a truism of medicine that there is no typical case, even of organic diseases. The “soil” is of as much influence in producing symptoms as the “seed.” And of functional disease this is peculiarly true. The symptoms of eyestrain are amazingly complex and differ in some respects with every patient. More than any other morbid cause, its effects are multitudinous. When the role of vision and the functional relations of the eye

¹ With the exception, of course, of Nietzsche, Margaret Fuller Ossoli, George Eliot, and Lewes.

with the organism, and with life, are understood, the reason for the infinite variety of symptoms is seen. The two things that bind all to unity are the certainty of a common cause, and the equal infallibility of the therapeutic test. If use of the eyes produces any of these results, it is almost surely the cause; if disuse of the eyes relieves, it is doubly sure; if, without disuse of the eyes, proper glasses does the same, the demonstration is beyond all question. In every one of the fourteen cases, disuse of the ametropic eyes did give temporary relief; the paralyzed accommodation at about 60 did the same thing permanently, and added great ability to the power of ocular use; these symptoms in thousands of American patients have been instantly extinguished by lenses properly correcting the ametropia. The demonstration is perfect.

The Result in Lost Time and Opportunity. If De Quincey's opium-eating, as I have no doubt, was due to his eyestrain, then a large part of his life was certainly wasted from that cause. Surely three-fourths of Carlyle's working time and ability were spent in horseback riding, walking, and in recovering from the exhaustion of writing. He produced during his working life about one-half page a day. Much of Mrs. Carlyle's life was spent in 30-hour or 60-hour continuous vomiting, and in suffering, and if this could have been avoided, the time, and much good white paper, spoiled by critics, biographers, concerning her

and her husband, would have added greatly to the national income—especially in the saving of paper! Darwin was able to read or write only about two hours a day, and his literary product was less than that of Carlyle. The rest of his waking hours, those he did not waste fighting insomnia, were spent walking like a dumb animal about his “sandwalk” or more foolishly enduring the brutal water-cure. Fortunate it is that if he could not read and write, he could think and observe. The output of great minds is to be measured qualitatively, of course, not quantitatively, but ours is the grievous loss, nevertheless.

Just at the climax of Huxley's sufferings, at the zenith of his powers and at the moment presbyopia would probably have given him relief, he was compelled to resign and take to the moors. For 45 years his life and power of work had been greatly crippled by his sickheadache. What a tragedy! What a loss for science!

Browning avoided suffering, by avoiding eye-work, by going to Italy, by living in the open air, and when he could not do this, in living, as his biographer says, “upon the surface,” and by “countless social engagements.”

Wagner came near committing suicide many times owing to his tortures. He also squandered a large part of his life in hydropathy, diet, and walking, until relief came all at once from three apparently supernatural sources.

Parkman himself estimated that 75 percent of his life had been wasted by his inability to use his eyes. He avoided the agonies of others by simple renunciation. Not being ingenious Yankees, they never had a "gridiron" nor recognized the need of it. Parkman's output for 14 years was about 6 lines a day, and his life product was but little greater. The hideous waste of his superb powers and valuable time was, I think, fully 90 percent.

All the newspapers which Whittier edited until he had to quit all literary work except versemaking, had to be discontinued because of his bad health. He was forced to renounce his splendid ability as statesman and reformer, and for the rest of his life retire to the farm to nurse his health and write a little poetry.

Spencer avoided suffering by cunning precautions, in nonuse of his eyes; more deftly still he hid his lack of scholarship (German, metaphysics, etc.), which was denied him because he could not study.

The pathos of Margaret Fuller's life came from the fact that her little work, her poverty, and her death itself were due to her eyestrain.

The havoc wrought by eyestrain in a genius the natural peer of any, the superior of most, in the German professor at 24—the incomparable Nietzsche—is so pitiful and awful that one can scarcely speak of it with restraint.

Death came to George Eliot and Lewes when eye-

strain and its reflexes had tormented them and wasted so much of their life, and just in the year when completed presbyopia would have given them relief.

The Result in Suffering is incalculable and horrible. There are and will be biographies of these people which will not allude to it, and physicians and medical editors have been known who smile ironically at the "exaggeration" of "vivid imaginations." Many think they are excused from all sympathy with a Carlyle or a Nietzsche, and have no need of a thousandth of their nobility of character, because they disbelieve in something the great men have said or taught. "Let us be contemptible because their philosophies are so"—one seems to overhear. The misery of the pain in one attack of sickheadache has not been equaled except in some medieval or oriental torture chamber. When for some profound reason the dominant and oldest instinct of the organism, that for food and nutrition, is violently reversed, it should be plain even to the stupidest lay mind that the deepest wrong exists and that the very springs of life are being drained. Add to this another symptom almost equally terrible, intense pain in the brain, the organ controlling both character and life-processes, and what disease could be more desperate? How many of our patients had sickheadache it is impossible to tell, owing to the disinclination especially in writing and biographies to speak of vomiting. Probably most of

them did have it more or less. Of Mrs. Carlyle, Huxley, Wagner, George Eliot, Lewes, Nietzsche, and Darwin, it was almost constant when the eyes were used in near-work. Whittier, De Quincey, and Carlyle suffered from it also. Spencer, Browning, and Parkman escaped, undoubtedly by means of not driving the eyes to the degree of use that would produce it. But headache alone without the "30 or 60 hour" retching is bad enough. Then it must be remembered that for geniuses like these upon whom was laid the awful duty of world regeneration and enlightenment, the mental anguish from knowing their lifework frustrated, was greater than any simple physical suffering could be. This comes out with tragical emphasis in a hundred quotations that I must omit. Until paralysis came to his rescue, the mental and physical agony endured by Nietzsche is one of the most terrible spectacles one can imagine.

Insomnia. There were but few of the fourteen patients who were not extreme sufferers from inability to sleep. Of some it seemed the chief complaint, and the bitterness and reiteration of the trouble by most was so great as to make this symptom of exceptional interest to physicians and physiologists and to demand a scientific explanation. For 30 or 40 years, several, one would judge, could get on the average but two or three hours of sleep a day; a full night of sleep was hardly ever or never secured, and the attempt to rid

themselves of noise constituted their greater trials and expenses of practical life and dominated all plans and methods of domestic economy. Oriental cruelties, physiologic laboratories, etc., have demonstrated the absolute necessity of sleep, the fatality of enforced wakefulness, and every one knows from personal experience how all health and happiness is dependent upon that strange lapsing of consciousness. There is an unconscious divinity of physiology, one at least whose consciousness is so different from ours that we call it unconsciousness, though it is more ingenious and purposeful than man's most exalted and scientific vision can ever suspect.

Is it not true that the biologic divinity never sleeps? Is it not simple fact that for 16 hours a day he lends to our consciousness, as temporary engineer in charge, the marvellous machine we call the human body and brain? Is it not as evident that even while we as engineers are in charge, his attention is always present in every bolt and bar, in every organ and every cell? One of his little, but to us as physicians, conspicuous functions, we have named *vis medicatrix naturæ*, the healing power of nature, the wonderful art of instinctive unconscious repair, the amazing and perfect proof of the very presence of God. Is it not again the oldest of physiologic truths that in highly complex and differentiated organisms like ours, the conditions of repair and healing are intermediated by cerebral and

neural control? In other words, our derived or subordinate consciousness works by means of the cerebral mechanism loaned to us by the sleepless chief engineer for two-thirds of the twenty-four hours. Follow the logic one link further and it is seen that while the locomotive is put in our hands, it cannot be repaired. It must stop running and go into the shop for repairs. It is noteworthy that even if no repairs are needed, an ordinary railway locomotive gets tired and must literally be rested. A simple bar of steel, it seems, needs sleep, rest from continuous strains. More strikingly does the human machine require the lapsing of our engineering control, and so of our consciousness. This, or something like it, is the philosophy of sleep. And now for the application to our subjects; the astigmatic and anisometropic eye can scarcely rest from muscular or innervational strain for a second of the sixteen waking hours. The heart rests every beat; every organ and every muscle rests, because no muscle can be steadily innervated for more than a few minutes without painful effort. The safety of the organism, the "making a living," requires this sixteen-hour restlessness of the astigmatic eye. Nothing like this denial of this absolute law of physiology exists in any other organ of the body. The eye dare not be injured, and the natural injury to it must be reflexly shunted to the brain or to other organs; in extreme cases of overuse, the fundamental conditions of organismal ex-

istence, nourishment and cerebral control, are denied and the organism itself is profoundly hurt or even destroyed. That, or something like it, is the philosophy of eyestrain and of reflex ocular neuroses. Lastly, the injury to the cerebral and neural mechanism and its exhaustion and injury is so great by the sixteen-hour struggle that when at night it is given over to the chief engineer, the repairing is such an active process that there is no rest possible and the human consciousness is aroused and awakened by the very stir and din of the repairing process. That, or something like it, seems to me the philosophy, or rather physiology, of the insomnia of eyestrain.

It may be of interest to note in this connection that eyestrain commanded all of our patients to reverse the proverb as to the value of the "midnight oil" to the student and literary man. The ametropic eye and the disordered brain, tried by the day's struggle, cannot work at night, and especially by the poor rushlights and candles of the last century. They cannot do so even with the best poor lights of our time. Only in the early morning hours could these patients find enough resilience of mind and strength of eye to do any original work.

The Digestional Reflex, next to insomnia and headache, was the most pronounced and constant symptom of the fourteen patients, and of nearly all it was the most crippling and dangerous. The roles that bilious-

ness and dyspepsia have played in civilization and are still to play, are indeed far from "play," are as serious a part as those of any, possibly of all infectious diseases combined. That, I know, seems exaggeration at first sight, but not when one reconsiders the fact that denutrition is the fundamental preparation of the "soil" for the reception of most organic and infectious diseases. It is, indeed, a dangerous thing to "explain" or, rather, to attempt to explain, the mechanism of intimate physiologic and pathogenic processes. Most physiology of this kind is crudity and error, guessing at best. Does the medical profession know at all certainly what biliousness and dyspepsia really are? We are surely far from knowing their causes, and the mechanisms of the causes. Rough observation, crude clinical facts, are about as far as we have got. One shrinks from parading his own clinical experience, but each day of sixteen years, and many thousands of patients, have convinced me that eyestrain is the almost sole cause of the awful disease sickheadache, that it causes a vast deal of so-called biliousness and of dyspepsias of many kinds, and that correction of eyestrain often relieves these troubles suddenly and as if by magic. I frankly confess that despite all pondering over the fact, and study of the physiologies, I am in doubt as to the mechanism. In a general way and usually the head is an inhibitory organ to the so-called vegetative or unconscious proc-

esses of the body, but eyestrain is such a peculiar disturbance of cerebral function that one doubts if it is essentially an exhaustion and depletion, or an excitant and irritation. Certain observers have thought that some types of diarrheal diseases are due to it, but the distinct evidence of the twelve cases studied, and of my own clinical experience, leads me to think it is usually, if not always, inhibitory to the digestional process. The vomiting would argue for this also very strongly. Physiologically both the diarrheal and constipational processes may, I understand, be results of the same initial inhibitional and indigestional cause. Indeed the symptoms of essential excess and deficiency of nerve force, of hypersthenic and asthenic disturbance may be the same apparently, or so similar as to end in confusion. Irritation and exhaustion sometimes seem mere names denoting phases of a single underlying morbidity. Several of these patients and quite a number in private practice, have exhibited palpitation of the heart, lapsed beats, irregular rhythm, etc., as an undoubted result of eyestrain. If stimulation of the pneumogastric nerve, as we are taught, results in increased rapidity of the cardiac beat, it is by no means clear that this inhibitory acceleration will explain the cardiac complications of eyestrain. It is a disturbed rhythm, an irritability, a disordered function rather than an acceleration, with which we have to do. The study of the headaches of eyestrain, the migraines, the

localization and almost infinite varieties of them, and of the mental or psychic functions, also leads us into the mysteries and contradictions of cerebral function and localization of function which are so far beyond the unraveling of science. Choreas, twitchings and tics are proofs of sthenic irritation and disorder, while pareses and even paralyses, sometimes also due to eye-strain, are of course only explainable on the theory of exhaustion and inhibition. But facts, accurately observed, precede philosophies, and sufficient unto the day is the evil thereof!

"Irritability" and "Nervousness." The biographies and letters of patients are filled with evidences, expressions, and facts, going to show cerebral and emotional irritability, what, for want of a better word, is called nervousness. The passion for activity, the desire for change and movement, are often uncontrollable and the words used to express it are painfully intense. It rises to morbid extremes just in proportion to the amount of eye-work demanded or completed. In every one it took the form of physical exercise, usually of walking. Carlyle walked numberless miles and rode one horse some 20,000 miles. De Quincey walked around his "measured circuit" 1,000 miles in 90 days; during his life he averaged 15 or 20 miles a day in walking, often far in the night. Darwin trudged about his "sandwalk" all the time he was not hydropathizing. Huxley's only relief was 10 or

15 miles a day. Browning, Parkman, Wagner, George Eliot, Lewes, Nietzsche, even Whittier, were forced to the same plan of life, each in his special way. Even Mrs. Carlyle says she walked from 6 to 10 miles a day for 10 years. Parkman's early fiery athleticism is positively morbid in its intensity; in his youth De Quincey ran to vagrancy for years, and Darwin's devotion to sports in his college days was the despair of his father; and so on. There can be no doubt that this commanding impulse made Darwin take the *Beagle* voyage, made Huxley join the *Rattlesnake* expedition, and turned both from other studies and living to natural history and science. When Parkman was denied the power of reading and writing, and when he could not live among the wilds or go into the army, he devoted himself to horticulture for 14 years (by means of low stools and rolling chairs), and when he could not do this he rowed or practiced sedentary gymnastics. Spencer avoided danger by recreation, and because Nietzsche denied the need of walking and action so much, forcing his eyes to a relentless fury of study, his mind was wrecked. Wagner felt he would literally go mad unless he should relieve himself by exercise, and he deeply cursed the "damnable organ of sitting still." That these men lived to ripe old age, that their health improved as they grew older, that when very old most of them could outwalk all the

young men—all this shows that their hearts were not organically diseased, that they were essentially physically sound, and that their ailment was truly functional. The demand and ability to carry out life-long physical exercise also points to an overplus of nerve force and an undeniable necessity of draining the surplus innervation to the large muscles of the body. But it also points more surely and clearly to the fact that only by this means could the eyes be rested and the source of reflex irritation shut off. That, or something like it, appears the plain philosophy of the "nervousness" of eyestrain sufferers, and their absorbing need of physical activity. The greater number of literary men and intellectual workers show no such uncontrolled necessity, because these have no eyestrain. Whenever one has such patients, or reads of such men being great walkers, look out for eyestrain. Truant schoolboys are to be studied from the same standpoint. When 50 percent of epileptics have unsymmetric astigmatism, it is suggestive of a possible ocular origin of their disease, even though when epilepsy is fully established and extreme, it may not be curable by glasses. When young criminals are found to have an enormously high average of high hyperopia—such as would absolutely interdict study and handwork—what can they do, if poor and naturally unmoral, what can they do but drift into crime?

Apathy and Exhaustion seem at first sight utterly at

variance with a synchronous exhibition in the same patient of nervousness and an impulse, not to be disobeyed, towards activity. In Whittier the exhaustion, anemia, and apathy, were more pronounced than in any of the others. In Darwin the psychic fatigue and depression coexisted with the spurred and jaded body. In Wagner and Mrs. Carlyle it came to a feverish alternation of exhaustion and activity, both morbid. In the others it phased itself in varying degrees of predominance and alternation. The intense melancholy and depression of Carlyle, Whittier, Darwin, Wagner, etc., and of most "dyspeptics" is proverbial, and has even provoked many absurd sayings, themselves pathologic, such as "Genius breeds upon a dyspeptic soil," etc.

One heartrending result of their exhaustion was the desire or fear of death, or of worse than death, insanity. Darwin was always on the edge of despair and at one time in middle life made his will in view, as he thought, of approaching death. Carlyle often shuddered at the apparent uselessness and fatigue of life, and the advisability of death. Wagner was constantly tempted to suicide, and at one time seems to have resolved upon it. Whittier, Nietzsche, Wagner, all were convinced, in youth or mid-age, that their lives had been lived out, and that nothing was left to do, at least no ability to do it. The peculiar nature of eye-strain, the rapidity with which it produces morbid

reflexes, and is relieved, easily explains the facts of the coexistence and alternation of exhaustion and irritation. They are mere aspects of one neural and psychic fact.

The Ocular Symptoms. One eye of De Quincey was kept closed in the latter part of his life when he was reading or writing, and is plainly divergent in his portrait. That proves a life of intense ocular strain. In the latter part of Wagner's life at least, the left eye was turned upward and outward and the forehead wrinkled to keep the lid above the pupil. That demonstrates many years of grievous suffering. Parkman's photophobia was his first and most constant symptom during life; he also had blepharitis and meibomian cysts. Pain in his eyes was as constant a symptom with Nietzsche as pain in the head and gastric trouble. Most people would think that because of these ocular symptoms, such patients more certainly had eyestrain than the others without a single ocular symptom. This is not so. The almost universal rule is that the more severe the reflexes the more certainly the eyes themselves do not complain; or conversely, the more the eyes are injured by ametropia, the less the reflexes are shunted to other organs. That in five out of fourteen striking cases of eyestrain there were severe ocular symptoms shows that the eye-defects were peculiarly irritating and the labor to which the eyes were put was particularly severe. Parkman's

photophobia was very exceptional. In old countries where patients do not have their errors of refraction properly and accurately corrected, one frequently sees patients with blue or colored coquilles or "goggles" such as Parkman wore in the sunlight. Eyestrain frequently produces sensitiveness of the eyes to light, but in Parkman's case there was an extraordinary high degree of it. Parkman avoided headache at least, if not gastric trouble also, by stopping near-use of the eyes. His "stirred-up head" with the least use of his eyes, would also stop when he ceased to work with eyes or brain. The most noteworthy of all the cases was that of Nietzsche, in whom eyes and brain suffered equally and coincidently, both more than the digestive system, and all ingravescent, until his mind gave way. This demonstrates the marvellous balance and equal resistance of all his organs and powers. The eyes first gave way, then the mental mechanism.

Some other Symptoms. Connected with the insomnia of eyestrain is the symptom of night-terrors, bad dreams, restless sleeping, etc., noted in the child Wagner, and in almost every child brought to the oculist's office. Unless relieved in the one possible way, it means a life of intolerable suffering. I have in a day cured a number of children of nocturnal enuresis by glasses alone. The fickle appetite, especially for breakfast, the anorexia of such children, is

also indicative of the same morbid cause. Extreme sensitiveness to noise is an aspect of the symptom of insomnia that has been noticed. Complaint of the "nervousness" of patients young or older, the "fidgetiness," etc., of the waste and rush of our modern nervous life, fills the newspapers and magazines. Much of it is due to eyestrain. As high a proportion as 40 percent or over of modern school children are pronounced backward or subnormal in physical and mental qualities. Child-suicide, the most frightful symptom of civilization, and general insanity, are both mathematically in proportion to the number of hours of school study demanded.

A critic has spoken lightly of the vast amount of drugs taken by the Carlyles in their struggle to prevent or cure their diseases. Quain was scornful and said that drugs and gingerbread caused Carlyle's woe. Nietzsche's sister, as much as is possible for her to be, is harsh-toned when she alludes to her brother's drug-taking. But what else could they do? Who would not do the same under the like provocation? And Mrs. Carlyle would have been happier if she had taken as much morphin as Mrs. Browning. It is indeed true that opium was a blessing to De Quincey, as he said it was.

Before stopping I wish to allude to facial eyestrain expression. Observant oculists notice it when some patients enter the room. It is not always present, just

as ocular symptoms may be absent in the worst cases. I should say that the expression of the eyes and face is characteristically morbidized in 50 percent of such patients, especially the older ones. In children with eyestrain, anemia, anorexia, and night-terrors, it is however, usually to be detected. It is not a result of heterophoria, the latent or the permanent turning of the eye outward, such as De Quincey and Wagner had. That is a different matter and causes a different expression. It is an almost indescribable haunting signal, as of exhausted and hopeless suffering, a sort of haggard, sunken look, telling a tale of pained, tired, and useless effort. In the late photographs of Darwin, of Carlyle, of Mrs. Carlyle, and of Whittier, it is evident, and suggestions of it exist in those of others. (It was this look that first suggested to me many years ago that Carlyle was an eyestrain sufferer.) It is plainly present in the pictures of Beethoven, Tennyson, Mrs. Browning, etc. The "Bachelder eye" of Webster, Whittier, etc., I suspect was a result of the intensity and victory of the effort to compensate for the eyestrain present. Old painters sometimes reproduced the eyestrain expression more or less perfectly in their pictures of medieval saints and ascetics.

Lastly, I cannot forbear allusion to the influence eyestrain sequels have had on the growth, during the last century, of European spas and health resorts,

springs and waters, sanitariums, cures, establishments, etc. The histories of the search for health at these places by Wagner, Nietzsche, Darwin, Parkman, Huxley, George Eliot, and Lewes bring vividly before the mind directly, and as much by indirection, that these resorts came into being largely, if not principally, in a pitiful attempt to cure eyestrain. Pleasure palaces and fashion resorts, one realizes, often grew out of the superstition. The hunt for diet doctors and water doctors was so intense that its ludicrousness is almost as crying as its unavailing resultlessness, and both are only equalled by the pathos of it all. Hydropathy, its gulls and its Gullies, are still dismally echoing in the twentieth century. The peculiar kinds of diseases and of patients on which fatten a hundred forms of quackery, eddyism, osteopathy, absent healing, and all the nauseating rubbish of several million maudlin American cranks and scamps, are also in big part due to an attempt to treat astigmatism by ignoring it, or by means of that potent article of materia medica called humbug.

Intercurrent Diseases. Several of the patients, *e.g.*, De Quincey, George Eliot, and Nietzsche, seemed extremely subject to influenza or colds; and especially Mrs. Carlyle. When not suffering from headache she was always suffering from colds or influenza—"eight influenzas annually," said Miss Martineau. They afflicted her all her life, most exasperatingly and most

wearingly. I have not copied all the excerpts which prove the continuousness and severity of these seizures. It is gratifying to be able to quote a great medical authority that such attacks of colds and influenzas—

“ May be due to microorganisms, or local conditions in the air passages, but these maladies, as we now know, both depend to some extent on a special predisposition in the sufferer, having its root in the nervous system, and both leave their stamp on that system and gradually undermine it.”

Now here is a truth, or a glimpse of it, that deserves most careful pondering by the profession. In Mrs. Carlyle's case it is noteworthy that these colds and influenzas did not coexist usually with headache and sickheadache; that they came on in a most unaccountable manner, without explainable reason, usually in winter, and remained long; and most remarkable that they ceased at the time of the great change in 57 or 62. Wet or foggy, or not, driving, sailing, or not, she is at this time “ perfectly astonished with the impunity, etc.” All of Mrs. Carlyle's sickheadaches were caused by eyestrain, a fact beyond all question. As little doubt can there be that no cause can more directly and infallibly upset and morbidize the nervous, mental, and nutritional mechanisms. It thus supplied the “ nervous system ” with precisely the predisposing condition Sir James Crichton-Browne gives as the cause of colds and influenzas. The inference is

very suggestive that Mrs. Carlyle's influenzal attacks were the reflex results of eyestrain. The smile of incredulity with which the allwise may receive the thought has nothing to do with its truth or falsity. In private practice the fact of the interconnection of nasal and ocular diseases has often been noted. Illustrative cases have been published. The details of one such are of exceptional interest:

A healthy, clear-headed, intellectual man, was given two pairs of spectacles for his myopic astigmatism, a stronger or higher correction for use at the theater, driving, etc., a weaker correction for reading and daily or constant use. For a year his wife and daughter observed, without telling him, that whenever he wore the strong, or accommodation-exciting glasses, he "caught cold," with coryza, hoarseness, etc., which at once disappeared when the weaker lenses were used. He used the stronger ones but a few times a year. When certain of the strange coincidence his wife told her husband. In the past ten years the cold has been produced in this way—a hundred or more times. Now if his weaker glasses get "crooked" or maladjusted, miscorrecting his axis of astigmatism by a few degrees, his cold promptly appears, to vanish in an hour after a visit to the optician.

Such cases of the interrelation of nasal and ocular disease may be rare, but the careful diagnostician will always be on the lookout for them.

Several of these patients also complained of parietic symptoms. It is not impossible that these were due to a reflex ocular neurosis, for I have had cases of numbness, aphonia, pareses, and partial paralyses of hands and arms, due directly and beyond all doubt to

severe eyestrain, and disappearing at once with relief of the cause.

Nietzsche, Mrs. Carlyle, and others, had more or less constant rheumatism, and Parkman had life-long arthritis. A sound and healthy hip-joint, the supposed seat of neuralgia, has, I have read, been opened for toothache. Mumps may be located in the parotic or in the orchitic glands, and cases have been reported of metastasis to the brain. One who is careful to avoid the subtle demon of prejudice will not rush into dogmatism about the matter, either that such rheumatic affections may depend or may not, upon eyestrain, that is upon the ocularly-caused abnormalized nerve centers of control, vasomotor, reflex, or nutritional. There are multitudes of more seemingly absurd facts than that, well attested too, by physiology and pathology. Throughout his eyestrain life from childhood on, Wagner was bothered by ever-recurrent attacks of erysipelas. How far that affection may also depend upon innervational and morbid vasomotor antecedents, I do not know, and I suspect no other does.

The Heredity Theory. When a certain class of medical and other scientists cannot explain a pathologic fact that is unduly troublesome, there is a hasty scuttling to the protection of the god of heredity. Writing in 1902, a learned physician feels compelled to read into the lives of Nietzsche's ancestors unproved

theories in order to explain the patient's symptoms on the supposition of heredity. In Mrs. Carlyle's case, to the facts that the father died of typhus fever, that uncles and aunts had few children, and that the patient had sickheadache, is ascribed her sickheadache. That seems hardly scientific, and certainly does not explain her "climacteric insanity" nor her sickheadache. Heredity is not at all understood and has been unduly and illogically advanced to explain disease. It may be fairly said that it fails to explain more frequently than it explains, and the instances in which the supposed law is absolutely nonexistent are more numerous than those in which it seems to give hints of a possible reason. Browning's physician acquiesced in the fatalistic necessity of his patient's headaches because in facial expression he resembled his mother. He forgot to ask where Browning's mother got her headaches, and if it were necessary to go back to Mother Eve. As all the world does not have headaches it would follow that one half, exactly, must have them (possibly correct) and that Adam had none. From such childish science one can only turn with the evident question, what caused the headaches in the mother and in all ancestors?

The Climacteric Theory should have long since been abandoned. In order to apply to women it should have been noticed that the sexual climacteric is not synchronous with the climax of the symptoms. These

grow more intense for about ten years after the menopause, and this fact makes a careful observer smile ironically at the pitiable hint of over-sexual minded women patients and of the professional opinion which has encouraged it. The mere cessation of a function not necessary to the life of the individual organism, hair-growth, loss of teeth, loss of eyes, etc., even the removal of arms, legs, uterus, etc., does not produce positive symptoms. The *coup de grace* of this ridiculous climacteric insanity nonsense is given by the very simple observation that the climax of the same kind of sufferings of men comes at the same age as in women, and if men have a sexual climacteric at that age, the genitourinary surgeons have misinformed us.

A Physiologic Truth Ignored. Concerning the fourteen patients considered, of all earthly things each most needed a simple optical device to have freed him, and to have turned the bitterest tragedy to perfect joy. All except one or two inheriting the traditional and ridiculous prejudice, affected to scorn spectacles. For the rest, none except one could have obtained scientifically correct ones, and only in his old age, and he, alas, failed. Optics, opticians, scientists, physicians, all had forgotten that simplest of physiologic truths that no muscle can be steadily and continuously innervated without pain, even for a few minutes. Of the ametropic eye the literary worker demands such an un-rhythmic strain of innervation for consecutive hours,

and for five, ten, and even sixteen hours a day. The intimate association of the eye with every organ of the mind and body, the amazing delicacy and complexity of the mechanism of vision itself, the absolute dependence upon it for safety and sustenance, make accurate seeing the *sine qua non* of the life of the organism. Accuracy in this supreme function has been insured by the punishment, on Darwin's own principles, of the organism endowed with the faulty organ—the head cannot direct because of pain, and the stomach with connected organs will not supply food to any part of the machine because it cannot digest. The sole conditions of safe and useful existence, the mathematically picturing eye, being denied, nature strikes work and refuses control and the supply of force. That may sound somewhat transcendental, and deductionist in logic, but if Darwin, and Spencer, and Huxley are correct in their science, it is exactly what takes place in the struggle for existence by the elimination and destruction of noncompeting and unsuccessful organs and organisms. Science and medical science, flushed with bacteriology and surgery, and prepossessed, obsessed almost, with the thought of the infectiousness of disease, may neglect this truth, but not for much longer, and already with danger and expense.

The Cause of Disease and the Cure. Just now the cry goes up from a united profession, and is appealingly echoed by kings and prime ministers, "Discover

for us the cause of cancer." The most famous man in the world would be he who should make the discovery, and he would be justly honored. But might it not come out that after all our acclaiming we should be no nearer an effective therapeutics than now? We know at last the causes of the two diseases of the respiratory organs which kill more than any other two. Is their deadliness any less because of our knowledge? It emphasizes the measures of prevention, and proves they are proper, but tuberculosis and pneumonia kill as many as before. Prevention is not the same as cure, it is of course better; but the laws of prevention are learned by simple observation, seeing macroscopically rather than microscopically, and reasoning straight from that, plus effective putting into practice of the known needed thing. It is again the old question of morbid soil and morbid seed. Hygienic living remains still the one preventive of the pulmonic conditions which make pneumonia and tuberculosis possible. One of the most successful, one of the most potent preparers of the morbid soil for any infectious disease, is eyestrain, and it will in time be recognized as such. There is no single more prolific source of the anemia, denutrition, than eyestrain and its reflexes, which prepare the soil wherein may spring up the weeds of any disease.

Eyestrain and its Results Depend, first, upon the kind and degree of ametropia and muscle imbalance,

the latter a secondary and rare factor. The low and slight astigmatisms and anisometropias are more injurious to the nervous system than high errors. High errors change character and occupation, low ones disorder nervous control and nutrition. This is because the low error can always be only temporarily neutralized or compensated for, while at the same time the attempt to neutralize can never be renounced. It is a true task of Sisyphus.

Second: The results of eyestrain depend upon the kind of organism in which they occur. The chemical reaction depends upon the substance in which the reagent falls. If the resistances or vital powers are great the effects will be small, even of bad kinds of ametropia, while a small strain upon a morbidly unstable organism will end in disastrous consequences. The reflexes, like all forces, will take the line of least resistance, and expend themselves on the less resistant organ. In an organism like that of Nietzsche, with splendid and equally resistant cerebral and nutritional systems, no one will give way, and the invader, not dreaming of desistance, the storming of all the defenses continues until the defending general sacrifices himself for the cause of peace and to save his few remaining supporters. Rare as they are, such "victories" exist, and are the most lamentable of the results of the war of civilization.

Third: Although but three of our fourteen patients

were women, the hurt of eyestrain generally is greatest in the female sex. For several reasons the incidence of the morbid effects of eyestrain falls far heavier upon women than men. Their organizations are more unstable, they are more emotional, and they are more sensitive to slight stimuli or inhibitions than men. These are powerful and effective reasons. I see other vague but real reasons why femininity, sex itself, increases the liability, but I cannot even recapitulate them here. Outweighing all the others, however, the dominant cause of this seemingly unjust law of nature lies in the simple fact that women do most of the sewing, have more leisure for reading and hand-work amusements, and because they live indoors far more than men. It is true that men are seizing upon many of these occupations, tailoring, handicrafts, etc., but that only makes the woman-tragedy the more severe and bitter as they are forced to other kinds of more enslaving eye-labor. The suffering that is going on in conventual and educational institutions, and in the sewing-rooms of the old countries, is literally appalling. A charity that would supply poor work-women and workmen with the services of scientific oculists and scientific spectacles would stop more suffering than the combined almsgiving of the world.

Fourth: But the preceding conditions all depend upon a fourth. Eyestrain is wholly a disease of civilization. It is entirely an occupational disease. As

an Indian or an African savage, the ocular defects of any of the fourteen patients would not have produced a single morbid result of the kind illustrated. Even a basket-weaver or arrow-chipper with the astigmatism of a Nietzsche, would have found other work or been forced into it. He would have failed in the chase or in any art requiring accuracy of vision, and the god of natural selection would have dispensed with him in the old terrible way; there would have been no pain or paralysis. This is because the morbid results of eyestrain depend entirely upon use of the eyes within reading or writing, or handwork, distance. The more such use the more baneful the consequences. Civilization has multiplied a hundred or a thousand times the amount of such near-range work, and the multiplication still goes rapidly on. In making the eye, evolution never foresaw civilization, and that mechanism, created for accuracy of distant vision, is most glaringly ill-adapted for the near vision our modern life relentlessly demands. There are a few occupations in civilization, slowly being weeded out however, in which our fourteen patients could have been happy if—and what an if that is!—if they could each have renounced the intellectual life. Under this proviso they could have been contented and useful citizens, *e.g.*, as osteopaths, mental-science healers, policemen, night-watchmen, stage-drivers, cattle-drivers, cowboys, burglars, or even political bosses

and senators—but they could not have passed a civil-service examination, or have been of intellectual service to their fellowmen.

“*Great Wits and Madness.*” Dryden’s famous couplet is a poor and untruthful variation of Aristotle’s “No excellent soul is exempt from a mixture of madness,” and of Seneca’s *Nullum magnum ingenium sine mixtura dementiæ*. The truth, the little truth, there may be in the sayings, consists principally of three constituent errors: 1. The people who accept such a psychology of genius and insanity are themselves incapable of knowing or understanding in what genius or madness consists, and view both as something alien. They are in no danger of illustrating either *ingenium* or *dementia*; 2. They may drive the genius into dementia by their stupid unrecognition and even hatred; 3. A genius may go mad because of eyestrain. Mrs. Carlyle, tortured for forty years by excruciating bodily suffering, may, in the crisis of pain, and the mystery of it, gaspingly demand a promise that if she goes mad she shall not be put in a madhouse; De Quincey may prevent pain and insanity by opium; great alienists may assure Parkman he will soon be a maniac, and may class Schopenhauer and Wagner as such; Wagner may live in fear of it; and Nietzsche may be crushed into the horrible actuality of it. It all proves not the silly pathology of the proverb, but the sin, and the want,

of medical science. A simple, or rather, speaking in optical terms, a compound pair of lenses would have absolutely prevented the entire tragedy in each case.¹

Influence of their Diseases upon the Character of their Work. The life-work of De Quincey, the best classic scholar in Europe at the age of 14, in view of that marvellous beginning, must be pronounced pitifully disappointing. So far as its morbidness and other qualities were directly due to opium, they were also, I am sure, due to eyestrain. So far as he failed to utilize his great intellect the result was directly due to eyestrain. There cannot be any doubt that the pessimism, gloominess, injustice, exaggeration in style and judgment, dictatorial and overbearing harshness, the history in lightning flashes, etc., of Carlyle, are the consequences of the disease which made him write, as he said, with his "nerves in a blaze," "in a red-hot element which wastes the life out of me." That is to say, a fury of innervation had to be aroused to overcome the eye-defect. This intensity was ruinous

¹ Three months ago a professional student from a great university came to me with a typical history of intense eyestrain which had forced him twice to renounce his intended career. Utter breakdown was again upon him. The cerebral and psychic symptoms were terrible. Suicide was constantly in his mind. He returned recently to thank me for his glasses and to say he is happy and studying hard, and that he stands scornfully smiling at the locomotive as it approaches him, while he has not the least hint of his old impulse to throw himself before it.

and was of course followed by an equally morbid depression and exhaustion. A similar method and result was necessary in the cases of Wagner, Nietzsche, and was present in a minor degree in Huxley and others.

Surely the frequent over-critical sharpness and acidity of Mrs. Carlyle's letters, and possibly of her conduct, were the cry of her suffering brain.

Darwin's lassitude, his lack of physical energy, the dragging step and the spurred jadedness showing in face and walk, seems also present in his slowly formed conclusions, and in a certain irresoluteness of style and matter.

In Huxley a love of polemics and a controversial harshness, etc., may have been due to the exasperation and intensity which his malady produced.

The naturally rugged and English intellect of Browning may have been directed to recondite metaphysical and ethical subtleties, and his expertness as a versifier almost destroyed, by the cause that set him to walking and working in Italy, instead of among Anglo-Saxon scenes and peoples and to be satisfied with hastily grasped truths that did not need the artist's reworking and polish. The change to England "had a most depressing effect." His involved and obscure sentences, abrupt breaks, interpolations, etc., are possibly the result of the eyestrain that would not allow finish and outworking. His manuscripts show few corrections.

How much more perfect and wonderful might have been the almost perfect and always wonderful art works of Wagner if he had not had a quivering and suffering and exhausted nervous system! Instead of the contentious and unneeded controversialist prose writings, and especially the pessimism which is an almost inevitable result of a tortured and jaded nervous system, instead of frequent crudities and much over-emphasis in his operas, we might have had a hundred times the number of heavenly things he has left us.

Parkman's affliction seems to have had little result upon his literary work except to limit tremendously his productivity. Unless overconciseness and prosaic sternness were consequent upon the prison-like narrowness of his necessities, the iron logic of his character defied all the cruelties of fate to change or modify his mind or the quality of its work.

Whittier was a true neurasthenic, without a single clinical symptom of what goes by the etymologically absurd name of neurasthenia. The sad apathy of his mind and body in his later life is in sharp contrast with the fire of the earlier anti-slavery reformer and politician. His poetry reflects the change in his life.

Herbert Spencer escaped the fate that would have been inevitable with greater use of his eyes, but the limitations and materialism of his magnificent attempt at "synthesizing philosophy" are too evident to need

re-emphasis. The man who could not read German, could not synthesize "philosophy" in the nineteenth century. And a man could never have learned German and mastered German thought, who at the age of 83 could "read without spectacles."

Margaret Fuller Ossoli's literary work was but a suggestion of what she might have done had not eyestrain and its effects kept her neurologically and financially impoverished.

The youth who at 24 was a German professor of philology, who had so splendid an organization, physical and intellectual, as had Nietzsche, who was forced to give up that professorship in ten years because of suffering of eyes, head, and digestive organs, and who at the age of 45 was steadily and fatally driven into paralysis by his ingravescent atrocious eye defects coupled with love of knowledge, just at the time presbyopia was beginning its cruel exaggeration of misery—such a man and such a fate is the very limit of the awful and the tragical. If a Nordau says it was all due to Schopenhauer or to unmentionable causes, the answer comes quick that pessimism is the almost inevitable outcome of years of the torture, the denutrition, the drained life-power, and the disappointment due to an eyestrain so great as that of Nietzsche.

The Professional Blunder. For twenty-five years the medical profession has had placed before it the

evidences of the pathogenic results of eyestrain to the entire nervous and physiologic economy. The fact was first called to its attention in 1875 in a most reputable periodical and by a most trustworthy physician. There is no evidence in European literature, so far as I know, that any physician of England or of the continent has ever read this article, or the hundreds that have followed it, or cared a fig for its teaching. The stomach specialist has continued to treat the special organ as if its functional diseases had no relation to the general system. Biliousness, like a wandering and very ancient mariner, transfixes us with his glittering and yellow eye, and lays his spell even upon the wedding guest of science; dyspepsia is drugged and studied, and headache is drugged and not studied. All the time spectacle peddlers fill the land, ruined eyes and lives multiply, the patent medicine disgrace rules legislation, bitters grow more alcoholic, tons of headache powders are sold every year, and the carnival of eddyism and blatant quackery goes more wildly on. And much if not the most of it is due to neglect of the physiology of the eye and of its reflex neuroses, and carelessness as to the functional diseases which depend upon eyestrain. The deadliest blow that can be given to quackery in and out of the profession, to the patent medicine and eddyistic humbugs is to prevent the dyspepsias, anemias, neurasthenias, and headaches which are caused by eyestrain, and whereon batten the multitudes of quacks.

Not the Genius alone but the Common Workman and Workwoman should be in our mind. One is very likely to get a very distorted, or at least one-sided idea of the role of eyestrain in the world if he sees it only from observing its disastrous effects in the case of great literary and scientific minds. The symptoms and the kind of tragedy it brings to the mechanic and the mechanic's wife; to the sewing-woman, clerk, housewife; to the lonely and distant settlers far from cities and oculists; to the millions of school children and college students; to professional men and women of all kinds—these are different calamities and they present in each case a separate problem. The one fact common to high and low is that it morbidizes character, doubles suffering and personal burdens, lessens all productive capacity, depreciates the national valor and validity and wealth, and delays the advance of civilization. This last is its most evil effect, because every act and product of intellect is intermediated by vision.

Value to Nations and to Civilization of its Great Men. The most valuable products and assets of a nation are confessedly not its material things, not those measurable in financial terms; they are not discussed in its legislative halls, or much thought of by kings or presidents. Worth all of these things are the few literary and scientific geniuses that silently emerge in each century. How inestimably valuable were the men whose clinical lives we have hastily studied! And

the amount and character of their intellectual product was limited and qualified by their bad health. Of their sufferings their contemporaries were incurious, and to them indifferent. The pathos and pity of it is appalling whether we think of it as a personal matter or from the standpoint of the progress of civilization. How narrowly each escaped absolute failure to deliver his message, how fine the line between utter loss and the saving of even the wreckage; and there is added poignancy when one considers that it was precisely the act of doing their intellectual tasks that brought the suffering, that crippled and morbidized the results, and that brought the danger of absolute failure itself.

We must also remember that not these few only were they that were lost or ruined, or morbidized. By the very nature of the cases, in the vast majority of instances, the records are wanting from which to gather knowledge of the losses or hints of the failures. With only a little search fourteen startling examples have been found. The evidence that has come to us in these examples is too indefinite and unscientific as to details, although it leaves no doubt as to the fundamental and essential pathogenic factor. Had we but data concerning de Maupassant and his insanity, if we knew the facts about Swift, Chatterton, Keats, and a multitude of budding or blasted geniuses, many of whose names are unknown to us. For,

wherever intellect has sought the solution of the mysteries of our life, wherever reason has attempted to lessen the world's load of suffering and ignorance, there may the eyes have been defective, upon which all results depended, all results to the worker and to the aftercoming workers, who we are. And so it comes to this that the geniuses, the instruments and makers of civilization, depend at last on the medical profession. At last and late we are rising to the measure of our opportunity and our duty.

GEORGE ELIOT.

CHAPTER II.

GEORGE ELIOT.

"ILLNESS seems to me the one woe for which there is no comfort—no compensation." (George Eliot.)

"How impossible it is for strong, healthy people to understand the way in which malaise and suffering eats at the root of one's life. The philosophy that is true—the religion that is strength to the healthy, is constantly emptiness to one when the head is distracted and every suggestion is oppressive." (George Eliot.)

"Far worse than any verdict as to the proportion of good and evil in our work, is the painful impression that we write for a public which has no discernment of good and evil." (George Eliot.)

The truth of the foregoing sentences is as frequently not appreciated by medical men as by laymen. Their application to the life of George Eliot is peculiarly striking. The following excerpts from her letters and diary bring this out with a clearness and intensity that is unequalled in any of the studies I have made of other writers. I have lessened the number of quotations as much as is possible, omitting a large proportion which are repetitive or indefinite. Each one given seems necessary to present the clinical picture with fullness and accuracy. The figures following the quotations refer to her age when they were written.

Mary Ann Evans was born November 22, 1819.

Night Terrors in Childhood.—Mr. Cross wrote of her that she was

"subject to fears at night—'the susceptibility to terror'—which she has described as haunting Gwendolen Harleth in her childhood. She was not unhappy except at nights; but she told me that this liability to have 'all her soul become a quivering fear' had been one of the supreme influences dominating at times her future life."

A similar condition is described in the case of Wagner, and it occurs so generally in children with eyestrain that the observant physician often gets a hint from the fact as to the source of the child's indisposition, nervousness, etc. Many other causes may produce it besides eyestrain, of course, but taken with other symptoms it is suggestive. The sensitive young organism, daily irritated by some fifteen hours of struggle with an unknown obstacle to study and intellectual life, cannot find the rest and recuperation at night which is its most crying need.

"Books became a passion."—Mr. Cross also says:

"Books now became a passion with the child; she read everything she could lay hands on, greatly troubling the soul of her mother by the consumption of candles as well as of eyesight in her bedroom."

This hunger for knowledge continued throughout her life, and its existence should be kept in mind by one who wishes to understand the fundamental condi-

tion of her life-trouble. The number of books read, carried with her on travels, and constantly devoured is appalling. A glimpse of the fact may be seen in the list given on page 235, vol. ii, of Mr. Cross's Life, of the books read by her in six months. And this was just when she was entering the presbyopic period of her life, that of her greatest wretchedness. Hundreds of proofs demonstrate that her illnesses were all immediately consequent upon such use of her eyes, and wherever the special proof is wanting the connection is almost as certain because of the known habit. Whenever there is suffering one may be sure it was "near-use" of the eyes that caused it. Whenever there is health it is equally certain that there had been a rest of the eyes for an hour, a day, or longer.

Forty Years of Sickheadache and other Suffering.—The general nature of her illness may be understood from the following excerpts from her letters and journal:

"My mind has been much clogged lately by languor of body, to which I am prone to give way." (19.)

"I am this morning hardly myself, owing to the insuppressible rising of my animal spirits, on a deliverance from sick-headache." (20.)

"My excuse shall be a state of head that calls for four leeches before I can attack Mrs. Sommerville's 'Connection of the Physical Sciences.'" (21.)

"I have had a miserable week of headache." (25.)

"I have a woeful pain." (27.)

"Lying in bed this morning grievously tormented." (26.)

"A messenger of Satan was sent in the form of a headache, and directly on the back of that a faceache, so that I have been a mere victim of sensations, memories, and visions for the last week. I am even now in a very shattered limbo-like mental condition." (27.)

"I am a miserable wretch, with aching limbs and sinking spirits." (27.)

"I am suffering perhaps as acutely as ever I did in my life." (30.)

"I triumph over all things in the spirit, but the flesh is weak and disgraces itself by headaches and backaches." (30.)

"I have woful aches which take up half my nervous strength. My life is a perpetual nightmare haunted by something to be done which I have never the time, or rather the energy, to do." (30.)

"I have much less headache, but the least excitement fatigues me." (From Switzerland.)

"I have not merely had a headache—I have been really ill and feel very much shattered." (33.)

"Opera, flower-show, play, etc., all in one week, brought their natural consequences of headache and hysterics—all yesterday. At 5 o'clock I felt quite sure that life was unendurable." (33.)

"Pity me—I have had the headache for four days incessantly." (33.)

"Not at all well—all out of sorts." (33.)

"I am very wretched to-day and am only able to write you two or three lines." (33.)

"I have not been well for the last ten days; so, while I have been up to the chin in possibilities of enjoyment I have been too sick and headachy to use them. One thing is needful—a good digestion." (35.)

"I have just been reading that Milton suffered from indigestion—quite an affecting fact to me." (36.)

"The two objects that drew us hither, zoology and health." (37.)

"Terrible headache." (37.)

"The long years in which I have been inert and suffering."
(39.)

"An attack of illness during our last week at Munich."
(39.)

"Weary and ailing." (39.)

"Finished a story . . . when my head was too stupid for more important work." (40.)

"I am little better than a sick nigger with a lash behind him." (40.)

"We are both so feeble." (40.)

"Old and rickety." (42.)

"You may be sure we are ailing." (42.)

"Pater doing little else than nurse me." (42.)

"We have had a perfect journey except as regards health—a large, large exception." (42.)

"Unwell ever since we returned from Malvern." (42.)

"Continued walking for five hours." (42.)

"The year is opening happily for us, except—alas! the exception is a great one—in the way of health." (43.)

"In miserable health during all this month. I have had a fortnight's incessant *malaise* and feebleness." (43.)

"I am like a shell-less lobster, and inclined to creep out of sight." (44.)

"Health seems to those who want it, enough to make daylight a gladness." (44.)

"I have had hemicrania for several days and have been almost idle since my return home." (44.)

"Health is thoroughly good." (44.)

"As if anybody with a sound stomach ever knew misery comparable to the misery of a dyspeptic." (45.)

"Jan. 1. The last year has been unmarked by any trouble except bad health." (46.)

"Bodily uneasiness robbed me of half my mind." (46.)

"When one is bilious, other people's complexions look yellow, and one of their eyes higher than the other—all the fault of one's own evil interior." (46.)

"For nearly a fortnight I have been ill." (46.)

"My health is at a lower ebb than usual." (46.)

"For the last fortnight I have been unusually disabled by ill-health." (47.)

"An object for compassion or contempt, according to the disposition of the subject who may contemplate me." (48.)

"We start to-morrow; I have been laid prostrate with crushing headache one half of my time." (48.)

"More ailing than usual." (48.)

"A wretched month of *malaise*." (49.)

"The last two or three days I have seemed to live under a leaden pressure—all movement mental or bodily, is grievous to me." (50.)

"Ever since the 28th I have been good for little, ailing in body and disabled in mind." (50.)

"Lying awake early in the morning, according to a bad practice of mine." (51.)

"An illness has robbed me of two months." (52.)

"A rather doleful Christmas, the one great lack, that of health, having made itself particularly conspicuous in the surrounding fog. Having no grandchildren to get up a Christmas tree for, we had nothing to divert our attention from our headaches." (53.)

"Constantly struggling with hemicrania and *malaise*." (53.)

"Sinking health in walks and water drinking." (53.)

"Feebleness of body narrows my available time." (54.)

"Suffering, depressed condition." (55.)

"My health has been a wretched drag on me during this last half-year." (55.)

"Having a bad headache I looked into three or four novels." (55.)

"Waste the days in being ill, as I have been doing of late." (56.)

"I am dyspeptic and disposed to melancholy views." (50.)

"Anyone who knows from experience what bodily infirmity is—how it spoils life even for those who have no other trouble—gets a little impatient of healthy complainants, strong enough for extra work, and ignorant of indigestion." (57.)

"Continual headache." (59.)

"Haggard in the midst of our blessings. . . . The fault is all in our own frames, not in our air or other circumstances." (59.)

"Ill lately, but my head clearer this morning. . . . I am in a very ailing condition of body." (60.)

"Sadly delayed by want of health." (60.)

"Turn of illness of rather a sharp kind." (60.)

"In bed for nearly a fortnight." (60.)

"The rest of my time chiefly spent in pain and languor." (60.)

"An attack of the renal disorder of the previous year." (Cross.) (60.)

"On Monday the doctor treated the case as one of laryngeal sore throat; . . . on Wednesday evening the pericardium was found to be seriously affected." (Cross.) (61.)

Death occurred the same evening, Dec. 22, 1880. (61.)

Before trying to determine more exactly the nature of the principal disease, and its cause, I wish to direct attention to another set of symptoms which are of interest and suggestiveness, and which, as in the case of Mrs. Carlyle, and other patients, seem to have a causal relationship with the principal complaints.

The Relation of Colds, Influenza, etc., to Eyestrain, so often noticed in private practice, may be seen in the following sentences:

"A cold and headache doubly intolerable. . . . The tears are streaming from my smarting eyes." (27.)

"Wretched cold and cough and otherwise ill." (39.)

"A cold and a headache this morning." (40.)

"For the first winter in my life I am hardly ever free from cold. As soon as one has departed with the usual final stage

of stuffiness, another presents itself with the usual introduction of sore throat." (43.) (Compare Miss Martineau's "eight influenzas annually"—of Mrs. Carlyle.)

"Severe attack of influenza, which had caused me more terrible pains in the head and throat than I have known for years." (44.)

"Sore throat." (45.)

"A cold I caught." (45.)

"Have never known a day of real bodily comfort since we got to Berlin: headache, sore throat and *Schnupfen*, etc." (50.)

"Cold and sore throat stretched itself all through our long journey." (51.)

"It is true that some nervous wear, such as you know well, from the excitement of writing, may have made me more susceptible to knife-like winds and sudden chills." (56.)

"A cold last week has trailed after it a series of headaches worse than itself." (56.)

"Sore throat." (Letter, 57.)

"Drafts and chills are my enemies, and but for them I should hardly ever be ailing." (Letter, 57.)

"On Monday the doctor treated the case as one of laryngeal sore throat. On Wednesday the pericardium was found by Dr. Clark to be seriously affected." (Cross.) (61.)

She died the same (Wednesday) evening.

Physicians have long recognized the serious nature of a "common cold," of influenza, etc., and it is only now that their relation to central nervous and reflex causes is being established. That a cold may result fatally in what is called a terminal disease is certain, and equally so that severe eyestrain may (perhaps rarely) produce the cold.

In-door and Out-of-Door Life.—To all except the oculist there is a most curious and mysterious connection between the exacerbations of such ill-health as that of George Eliot, and in-door life. With but few and explainable exceptions, as we have seen in all of the patients whose cases we have studied in this series, there is immediate relief, health, and happiness, with out-of-door life, and as immediate resumption of suffering with the return to London. Bad weather abroad, or conditions that prevent walking, driving, etc., produce the inevitable trouble. In-door life necessitates or allows reading and writing, whence arose all of the illness of our patient. While chronicling the fact hundreds of times in forty years, it seems strange that its significance, as always, should have failed of perception by the most scientific and observant. Such a calm and philosophic mind as that of George Eliot would not be wrought upon by these slight influences of weather, etc., if a more powerful and physical or physiological cause were not at work. This becomes abundantly clear from the following quotations.

"This terribly severe winter has been a drawback on my recovering my strength. I have lost whole weeks from headache, etc." (31.)

"One is tempted to walk all day, particularly when one lies in bed until ten as I do." (31.)

"I am getting as haggard as an old witch under London atmosphere and influences." (33.)

"The weather and I are both better, having cried ourselves

out and used up all our clouds. . . . Was there ever anything more dreary than this June?" (33.)

"I celebrated my return to London by the usual observance—that is to say, a violent headache, which is not yet gone, and of course I am in the worst of spirits." (33.)

"Oh, this hideous fog! Let me grumble for I have had headache the last three days, and there seems little prospect of anything else in such an atmosphere." (33.)

"Yesterday it rained *sans* intermission, and of course I said *cui bono?* and found my troubles almost more than I could bear; but to-day the sun shines, and there is blue above and blue below, consequently I find life very glorious." (34.)

"The fortnight has slipped away without my being able to show much result for it. . . . But I have absorbed much bodily strength; indeed I do not remember ever feeling so strong in mind and body." (From Ilfracombe.)

"I have hardly been well a day since I came to London." (Letter, 37.)

"I should be satisfied to look forward to a heaven made up of long afternoon walks." (38.)

"Since I have been in London my state of health has been depressing to all effort." (41.)

"Do you believe that I have not had a headache since we set out?" (41.)

"I think I love the fields and shudder at the streets more and more every month." (41.)

"So ill on Friday and Saturday, . . . set off forthwith into the country. . . . I felt a new creature as soon as I was in the country. . . . I suppose we must keep body and soul together by occasional flights of this sort." (42.)

"I think my *malaise* is chiefly owing to the depressing influence of town air and town scenes." (42.)

"My only pleasure is to go to the Zoölogical Gardens." (42.)

"I as usual am flourishing in country air and idleness." (42.)

"After enjoying our week at Egham, I returned to protracted headache. . . . I have begun the fourth chapter of my novel, but have been working under a weight." (42.)

"The constantly heavy-clouded and often wet weather tend to increase the depression. (43.) We made a rush to Dorking, and the quiet and fresh air seemed to make a new creature of me; but when we get back to town, town sensations return." (44.)

"The weather has been severely cold, . . . and I was often ailing. That has been the way with me for a month and more, and in consequence I am backward with my July number of 'Romola.'" (44.)

"Returned home much invigorated by the week of change, but my spirits seem to droop again as usual now I am in London again." (44.)

"The wide sky, the *not* London, makes a new creature of me in half an hour. I wonder, then, why I am ever depressed—why I am so shaken by agitations. I come back to London and the air is full of demons." (44.)

"But fog, east wind, and headache are not great dramatic motives." (45.)

"Mr. Lewes tells me the country air has always a magical effect on me, even in the first hour." (45.) "Much brightened by our wintry expedition." (46.)

"Five days holiday,—much invigorated." (46.)

"Resolute rain [in the country]; you don't know what it is to be a sickly wretch dependent upon these skyey influences." (47.)

"'In Paradise' George says; but the Paradise is in the fields and woods of birch and fir, where we walk in uninterrupted solitude." (47.)

"Ill ever since I came home." (47.)

"I am companioned by dyspepsia and feel like a struggle under the leaden sky." (48.)

"My head will have got clearer at Baden-Baden." (49.)

"My health has been unusually bad since we returned from abroad." (49.)

"After delicious days at Matlock I was so renovated that my head was clearer and I was more unconscious of my body than at the best of times for many months. But it seemed suddenly colder in London and old uneasy sensations are revisiting us both to-day." (49.)

"I never had such continuous bad health in traveling as I have had during these nine weeks." (50.)

"We are come back from the country much restored." (50.)

"A pleasant and healthy visit, walking much in the frosty air." (51.)

"I do lead rather a crawling life under these rainy fogs and low behavior of the barometer." (53.)

"Unhappily the country was not so favorable to my bodily health as to my spiritual and on our return to town I had an illness which was the climax of the summer's *malaise*." (53.)

"This is one of my bad weeks, owing probably to a change in the weather, and I am constantly struggling with hemicrania and *malaise*." (53.)

"We have been in our hiding place now about twelve days, and I am getting more bodily ease and mental clearness than I have had for the last six months." (53.)

"Languishing with headache from two days' damp and mugginess, and feel it almost as much work as we are equal to endure our *malaise*." (53.)

"There is really a good deal of curative virtue in the air, waters, and exercise one gets at such places [German baths]." (54.)

"Sorry to quit the woods and fields." (54.)

"In rather better health—having, perhaps, profited by some eight days' change at Weybridge." (57.)

"My fatigue is due not to any excess of work so much as to the vicissitudes of our long winter. . . . Sunlight and sweet air make a new creature of me." (57.)

"Both the better for our journey, . . . but infirmities recur

in spite of mineral waters and 3,000 feet above sea-level. We have done exploits in walking, usually taking four or five hours of it daily." (57.)

"For two months and more in better health than I have known for several years. This pleasant effect is due to the delicious air of the breezy Surrey hills; and, further, to a friend's insistence on my practicing lawn-tennis as a daily exercise." (58.) [Note the age!]

"Happily I was relieved from headache during our friends' visit. We took them to see Tennyson, etc." (58.)

"Her dislike of London life continued to increase, etc." (Cross.)

"So ill in the midst of our country joys." (59.)

"The days of warmth and sunlight have been my best medicine, though I acknowledge the benefit of pepsin and steel, and many other drugs." (59.)

"One cannot help getting occasional chills and headaches in this hard wintry time." (59.)

"Glorious weather always, and I am very well—quite amazingly able to go through fatigue." (61.)

"From the day she set her foot on Continental soil till the day she returned to Witley, she was never ill—never even unwell. During the eleven years of our acquaintance I had never seen her so strong in health. The greater dryness and lightness of the atmosphere seemed to have a magical effect. We spent our mornings at Paris at the Louvre, etc. In the afternoons we took long walks in the Bois, and very often went to the theater in the evening. Reading and writing filled in the interstices of time: Yet there was no consciousness of fatigue. It was the same in Italy, etc. Decrease of physical strength coincided exactly with the time of our return to the damper climate of England. The specific form of illness did not declare itself until two months later, but her health was never again the same as it had been on the Continent. Towards the middle of October she was obliged to keep her bed, but without restriction as to amount of reading and talking

which she was always able to enjoy, except in moments of acute pain." (Cross.) (61.)

"The November days had come now—cold and clear. My wife was able to enjoy the daily drives and walks on which she was very dependent for health." (Cross.) (61.)

The "Walking-Cure" is again illustrated in the cases of George Eliot and Mr. Lewes, and in the same way as in all of the other patients studied in "Biographic Clinics." The record of the long journeys to the Continent, to the country, and the trips to the seashore, the excursions, jaunts, walks, rests, etc., at first provoke a smile, but soon the interminable record becomes pathetic when one thinks how precious their time and literary work was both for them and for the world. This balking of effort, this tragical waste of time and opportunity made their hearts quiver with sorrow and depression. It was not so with Goethe, Kant, Humboldt, Zola, Henry James, and hundreds of literary laborers who used their eyes and minds as much as either of these fourteen patients. The fact requires attention and explanation by those who affect scorn of the "eyestrain exaggerator."

The connection between reading and writing and illness comes out with distinctness in these passages:

"Continuous thought did not fatigue her. She could keep her mind on the stretch hour after hour. The body might give way, but the brain remained unwearied." (Cross, generally of her life since he knew her.)

"My hand and mind are wearied with writing four pages of German and a letter of business." (21.)

"Mine is not a hard-working mind—it requires frequent rest." (22.) [Not the mind, but the eyes,—as is plain from many other quotations.]

"When a sort of haziness comes over the mind, making one feel weary of articulated or written signs of ideas does not a less laborious mode of communication seem attractive?" (22.)

"I only need it [encouragement] when my head is weak and I am unable to do much. . . . I am inclined to vow that I will never translate again if I live to correct the sheets for Strauss. My first page is 257." (23.)

"My soul-stupefying labor." [Of the translation of Strauss.]

"Alas! leathery brain must work at leathery Strauss for a short time before my butterfly days come." (23.)

"My own head was very middling for some days, so that I send you but a poor cargo of new manuscript." (27.)

"As her work advances she grows dreadfully nervous. Poor thing, I do pity her sometimes, with her pale sickly face and dreadful headaches." (Letter of Miss Bray in 1846.)

"A cold and headache doubly intolerable. . . . The tears are streaming from my smarting eyes—so farewell." (27.)

"If one's head would but keep in anything like thinking and writing order! Mine has robbed me of half the last fortnight." (27.)

"I have a swimming head from hanging over the desk to write business letters for father." (27.)

"I have no head for writing to-day, for I have been keeping my bed for the last three days. . . . I have only had a terrible headache." (27.)

"My idleness and aversion to letter-writing. My health is by no means good yet; seldom good enough not to be a sort of a drag on my mind." (28.)

"Spinoza and I have been divorced for several months; my want of health has obliged me to renounce all application." (28.)

"I am bothered to death with article-reading and scrap work of all sorts; it is clear my poor head will never produce anything under these circumstances." (28.)

"I have been both a nurse and invalid. . . . My chronic disease of utter idleness. . . . Study mental hygiene. Take long doses of *dolce far niente*." (29.)

"Have you known the misery of working with a *tired* steel pen, which is reluctant to make a mark? If so you will know why I leave off." (34.)

"I cannot go on scribbling—indeed my hands are so hot and tremulous this morning that it will be better for you if I leave off. . . . The evil one has possession just now." (34.)

"I am a few degrees more weazened and muddle-headed; and the articles for the *Review* are, on the whole, unsatisfactory." (34.)

"For the lest ten days I have done little owing to headache and other ailments." (36.)

"Muddled brain." (37.)

"It was cheering, the next morning after our arrival at Ilfracombe to get up with a head rather less aching." (37.)

"My head was still dizzy, and it seemed impossible to sit down to writing." (37.)

"Unusually weak. . . . My idle brain wants lashing to work like a negro, and will do nothing under a slighter stimulus." (38.)

"At last free from headache and able to write." (39.)

"Wrote the latter half of the second volume of 'Adam Bede' in the long mornings that our early hours—rising at six o'clock—secured us." (39.)

"My head is tired with writing this morning, . . . it is a feminine head supported by weaker muscles and a weaker digestive apparatus than that of a young man, etc." (41.)

"The third volume of 'Adam Bede' was written in six weeks, even with headaching interruptions." (41.)

"Have missed two days of work from headache, and so have not finished my book." (41.)

"Since I last wrote I have suffered from physical weakness accompanied with physical depression. The loss of the country has seemed very bitter to me and my want of health and strength has prevented me from working much—still worse has made me despair of ever working well again. I am getting better now by the help of tonics, etc." (41.)

"Much bodily discomfort, making both work and leisure heavy. I have reached page 209 of my story, and I want to get it ready for Easter, but I dare promise myself nothing with this feeble body." (42.)

"I think I get slower and more timid in my writing." (42.)

"I am better. I have not been working much lately." (42.)

"Fresh air and fresh thoughts that come with it." (42.)

"Alas, I could have done much more if I had been well; but that regret applies to most years of my life." (42.)

"Got into a state of so much wretchedness in attempting to concentrate my thoughts on the construction of my story that I became desperate, and suddenly burst my bonds, saying, I will not think of writing." (42.)

"Still with an incapable head—trying to write, trying to construct, and unable." (42.)

"So utterly dejected that I almost resolved to give up my Italian novel." (42.)

"I think no one bears physical pain so ill as I do, or is so thoroughly upset by it mentally." (42.)

"I have been obliged to be very moderate in work from feebleness of head and body; but I have rewritten with additions, the first chapter of my book." (43.)

"April 1.—Much headache this last week.

"April 2.—Better this morning; writing with enjoyment. At the 77th page.

"April 16.—As I have been ailing for a fortnight or more we resolved to go to Dorking.

"May 6.—We returned from Dorking after a stay of three weeks, during which we have had delicious weather." (43.)

"A dreadful palsy has beset me for the last few days. I have scarcely made any progress. Yet I have been very well in body." (43.)

"October 2.—Ten days ago we returned from a stay of three weeks in the country, and we are both very well. Everything is very prosperous with us, and we are so far from griefs, etc." (43.)

"Constantly ailing, and my work has suffered proportionately." (43.)

"I get less and less inclined to write any but the briefest letters." (45.)

"Fog, east wind, and headache: there is my week's history." (45.)

"I have been at a very low ebb, body and mind, for the last few days, sticking in the mud continually in the construction of my third, fourth and fifth acts." (45.)

"Ill and very miserable. George has taken my drama away from me." (46.)

"For the last three days I have been foundering from a miserable state of head. I have written chapter 10." (46.)

"To-day is the first for nearly a week on which I have been able to write anything fresh." (46.)

"After the notion I have given you of my health you will not wonder if I say that I don't know when anything of mine will appear. I can never reckon on myself." (47.)

"Book growing slowly, like a sickly child, because of my own ailments." (47.)

"Large spaces in the day in which I am unable to write." (47.)

"Last Thursday only I finished writing, in a state of nervous excitement that had been making my head throb and my heart palpitate all the week before. As soon as I had finished I felt well." (47.)

"I finished writing ['Felix Holt'] after days and nights of throbbing and palpitation." (47.)

"Better health than has been usual with me in these last six months. But I am not yet engaged in any work, etc." (49.)

"The last week or two I have been so disturbed in health that no work prospers." (50.)

"Inability to correspond by letter." (50.)

"During our stay at Limpsfield I wrote the greater part of 'Armgar,' and finished it at intervals during September. Since then I have been continually suffering with headache and depression, with almost total despair of future work. I look into this little book now to assure myself that this is not unprecedented." (51.)

"I systematically abstain from correspondence." (51.)

"It is grievous to me how little from one cause or other, chiefly languor and occasionally positive ailments, I manage to get done. I have written about 236 pages, etc." (52.)

"If there is a chance that 'Middlemarch' will be good for anything, I don't want to break down and die without finishing it." (52.)

"Delicious drives in the pure autumn air. I am really better—not robust or fat, but perhaps as well as I am likely to be till death mends me." (52.)

"My health has become very troublesome during the last three weeks, and I can get on but tardily. Even now I am only at page 227." (52.)

"Owing to my loss of two months in illness, and my infirm health ever since, I have not yet finished the writing of 'Middlemarch.'" (53.)

"Even writing this scrap of a note is the feather too much, and I must leave off." (53.)

"I have been reposing for more than a week, in the hope of getting stronger, my life having been lately a swamp of illness, with only here and there a bit of firm walking. Almost every week has been nullified for me so far as my work has been concerned. In consequence I have only finished the fifth book, etc." (53.)

"Brain-weary after my morning's work." (53.)

"I had hoped to have the manuscript well out of my hands before we left this place at the end of the month, but the re-

turn of my dyspeptic troubles, makes me unable to reckon on such a result." (53.)

"I am getting stronger. Mr. Lewes makes a martyr of himself in writing all my notes and business letters." (53.)

"I have been for a month rendered almost helpless for intellectual work by constant headache. . . . Nothing is wanting to my blessings but the uninterrupted power of work." (55.)

"You will perceive from my letter I am just now possessed by an evil spirit in the form of a headache." (55.)

"We both hate proof-correcting." (Do.)

"Writing notes is the crux of my life." (56.)

"I have been in a piteous state of debility in body and depression in mind. My book seems to me so unlikely ever to be finished in a way that will make it worth giving to the world, that it is a kind of a glass in which I behold my infirmities." (56.)

"It is writing answers that I groan over." (56.)

"Each part ['Deronda'] seems less likely to be anything else than a failure. But I see on looking back this morning—Christmas Day—that I really was in worse health and suffered equal depression about 'Romola'; and so far as I have recorded, the same thing seems to be true of 'Middlemarch.'" (56.)

"The oppression under which I have been laboring having positively suspended my power of writing anything that I could feel satisfaction in." (56.)

I have felt obliged to reproduce so many quotations showing the relation of writing to the health, in order to illustrate also the influence on the amount and character of the literary product. The chief criticisms that have been made of George Eliot's novels when justified, are at least in large part explained by the knowledge so manifest of the suffering she endured whenever she took pen in hand. As the years are

added there is increasing solemnity and gloom, degenerating, perhaps, into the characteristics gently touched upon for example by Leslie Stephen. Sometimes, but rarely, there are hints of an "excitement" from literary work that reminds one of the experience of Carlyle, Wagner, etc., but usually there was a depression which was so terrible that, as with several, the thought of death and even the desire of it is the effect upon the grievously harassed nervous system. This melancholy is shown in the ensuing paragraphs:

"I have been invalid for the last week, and, of course, a prisoner in the Castle of the Giant Despair, who growls in my ear that 'The Mill on the Floss' is detestable and that the last volume will be the climax of general detestableness." (41.)

"It was not headache that I was suffering from when Mr. Bray called, but extreme languor and unbroken fatigue from morning to night, a state which is always accompanied in me, psychically, by utter self-distrust and despair of ever being equal to the demands of life." (41.)

"It was that sort of despair that sucked away the sap of half the hours which might have been filled by energetic youthful activity; and the same demon tries to get hold of me again whenever an old work is dismissed and a new one is being meditated." (42.)

"Not very well. Utterly despondent about my book." (42.)

"I think of death as a fast-approaching end of a journey." (42.)

"I am much afflicted with hopelessness and melancholy just now." (42.)

"Struggling constantly with depression." (42.)

"I have an oppressive sense of the far-reaching task before me, health being feeble just now. . . . I have been ailing all

this last week, and have worked under impeding discouragement. I have a distrust in myself, in my work, in others' loving acceptance of it, which robs my otherwise happy life of all joy. I ask myself, without being able to answer, whether I have ever before felt so chilled and oppressed. I have written now about 60 pages of my romance. Will it ever be finished? Ever be worth anything?" (43.)

"Dec. 17.—At page 22 only. I am extremely spiritless, dead and spiritless about my writing. The long state of headache has left me in depression and incapacity. The constantly heavy-clouded and often-wet weather tend to increase the depression. I am inwardly irritable and unvisited by good thoughts." (43.) [She had just been offered \$50,000 for the novel.]

"Head very bad, producing terrible depression." (43.)

"Have been reading some entries in my note-book of past times in which I recorded my *malaise* and despair. But it is impossible to me to believe that I have ever been in so unpromising and despairing a state as I now feel." (43.)

"Horrible skepticism about all things paralyzing my mind. Shall I ever be good for anything again? Ever do anything again?" (45.)

"I am in deep depression, feeling powerless." (46.)

"Decay of power and health are very near to me." (47.)

"The certain approach of age and death." (47.)

"What hard work it seems to go on living sometimes! Blessed are the dead." (50.)

"One more resurrection from the pit of melancholy! And yet what love is given to me! What abundance of good I possess! All my circumstances are blessed; and the defect is only in my own organism. Courage and effort!" (50.)

"The discouragement—nay, paralyzing despondency—in which many days of my writing life have been passed." (50.)

"To me the most desirable thing just now seems to be to have one home, and stay there till death comes to take me away." (51.)

"The sick animal longs for quiet and darkness." (51.)

"I try to delight in the sunshine that will be when I shall never see it any more." (51.)

I hesitate to guess how many patients I have seen in private practice with the foregoing symptoms and immediately relieved by the relief of eyestrain. Completed presbyopia brought an end of the melancholy in George Eliot's case.

Presbyopia.—In all cases of eyestrain there is at about the age of 60, an almost sudden, and to all the patients a mysterious cessation of the peculiar and intense suffering, which they have so long endured. Life may have been almost wrecked, and the vital powers reduced to their lowest, but if not entirely beyond saving, nature usually regains control and a life of old age and at least partial happiness follows. If the fury of eye-work and of pain has been too great, it is not so. Mrs. Carlyle and Nietzsche are such exceptions. Mrs. Cross was another. She had a brief year or two of relief from the pathetic incubus of melancholy, but, without any definite organic complaint,¹ the powers of resistance could not even withstand a "sore throat." It should not have been unnoticed by the reader that in her case the entrance upon the beginning of the presbyopic process, at about 40, as always, increasingly intensifies the suffering. This

¹ It is noteworthy that as with so many there was also in her case palpitation of the heart noticed at 27 and 35 years.

is eloquently exhibited in the number and character of the citations from these years:

"I remember my wife telling me how cruelly she had suffered from working under a leaden weight at this time. The writing of 'Romola' ploughed into her more than any of her other books. She told me she could put her finger on it as marking a well-defined transition in her life. In her own words, 'I began it a young woman—I finished it an old woman.'" (Cross. She was then 44 years of age.)

"It is remarkable to me that I have entirely lost my *personal* melancholy. I often, of course, have melancholy thoughts, about the destinies of my fellow creatures, but I am never in that *mood* of sadness, which used to be my frequent visitant, even in the midst of external happiness; and this, notwithstanding a very vivid sense that life is declining and death close at hand." (57.)

"I have for two months and more been in better health than I have known for several years." (58.)

"I am better and I hope on the way to complete recovery." (60.)

"I am getting strong, and also am gaining flesh on my moderate scale." (60.)

"I am quite recovered from the ailment which made me good for little in the summer, and indeed am stronger than I ever expected to be again." (60.)

"Although I appear to be quite cured of my main ailment, half my bodily self has vanished. I get out for short drives and walks. I really have nothing to complain of now except a little lack of strength. I play on the piano again and walk with perfect ease." (61.)

"I kept my bed only about a week, and have always been equal, except at short intervals, to much reading and talking." (61.)

"I continue remarkably well, and am every day surprising myself by the amount of walking, standing, and looking that I can go through." (61.)

Ocular Symptoms.—The following sentences illustrate that the eyes themselves resisted the reflexes of eyestrain at the expense of the nervous system and other organs:

"The tears are streaming from my smarting eyes,—so farewell." (27.)

"I am a feeble wretch with eyes that threaten to get blood-shot on the slightest provocation." (44.)

"My hatred of bad paper and bad print, and my love of their opposites, naturally get stronger as my eyes get weaker." (47.)

"Loan of mind and eyesight all the more appreciated by me." (60.)

The Medical Profession.—Its attitude to the case is illustrated in the excerpts which follow:

"I am told peremptorily that I am to go to Switzerland next month." (40.)

"The check too was welcome to people under hydropathic treatment, which appears to stimulate waste of coin as well as of tissue. Altogether we are figures in keeping with the landscape, when it is well damped or 'packed' under the early mist." (42.)

"Looking slightly blue after our sitz baths." (42.)

"Quinine and steel have at last made me brave and cheerful, and I really don't mind a journey upstairs." (41.)

"Spencer told us yesterday that Dr. Ransom had cured himself of dyspepsia by leaving off stimulants. . . . I am going to try." (46.)

"Under the discipline of Dr. Andrew Clark who is not one of the 'three-meat-meals and alcohol' physicians but rather one of those who try to starve out dyspepsia." (54.)

"Dr. Andrew Clark ministers to all the brain-workers. I have been ill lately; weeks of *malaise* have found their climax in lumbar neuralgia, or something of that sort, etc." (55.)

"What can consulting physicians do without pathological knowledge? And the more they have of it, the less absolute—the more tentative—are their procedures." (56.)

"The doctors have decided that there is nothing very grave the matter with me." (56.)

"Again ill [in Switzerland]. At a German bath." (57.)

"No definite ailment." (60.)

"My doctors say there is nothing the matter with me to urge more haste than the common uncertainty of life urges on us all." (60.)

The patient is beyond treatment, but the last five years of her life could have been rendered more happy if her physicians had read and profited by an article published in 1875 in the United States, in the best medical journal of the country. In the past 25 years the entire profession of Europe and the great majority of that of the United States have continued to ignore the role of eyestrain in producing nervous and systemic reflexes. Especially has this been true, and continues to be so of the so-called leaders of the profession. Among George Eliot's friends and advisers were a number of the best and most famous physicians of England. Her's was a simple and typical case of old-fashioned sickheadache, due, as multitudes of other cases have been, to eyestrain. Thousands of such patients in every city and country are today suffering exactly as she suffered. Most of these are poor people who cannot leave their work for Switzerland or Italy, for the country, for walks and woods, and thus find a partial relief from their terrible sufferings. In our

country thousands of such afflicted ones have been cured by scientific spectacles, and are today pursuing near-work occupations of many kinds, free from their former misery and without flying to Europe, to the country, to hydropathy, or to "pepsin and steel and many other drugs."

GEORGE HENRY LEWES.

CHAPTER III.

GEORGE HENRY LEWES.

IN collecting the data for George Eliot's clinical biography I have copied those passages in which she speaks of the health of Lewes. He was if possible a more unremitting student than George Eliot, and drove his eyes and mind to literary labor with a reckless zeal. There is little or no evidence that the headache and sickheadache which resulted were accompanied by the mental depression or melancholy which bore so heavily on George Eliot. Otherwise their clinical histories were strikingly similar, and it is noteworthy how frequently both are forced by the same causes and at the same times to escape from literary work by the frequent trips to Switzerland, Italy, the country, the sea-shore, etc. There was the same relief experienced by both from these excursions and walks, and the same resumption of headaches, etc., when fogs and rain came, and upon returning to London, or to ocular labor. There was a similar history of sore throat, colds, etc. Both, for the same reason, hated proof-reading. There is the same ingravescence of suffering with oncoming presbyopia and an intensification of headache and sick-headache as accommodation is lessened. He had the

same suddenness of pain with work, and the same astonishing regain of health with ocular rest. The same great physicians advise him to stop literary work, to travel, to go to spas, hydropathic establishments, and all that. In one respect a particular medical adviser outdoes the rest in irrelevance and mistake when he orders stopping geologizing, because that compels the patient to "hang down his head." The order to renounce coffee also provokes a smile. "Gout" and "dyspepsia" are to be "starved out," or subjected to the usual "regimen." A minor difference in the symptomatology is that the completion of presbyopia did not come so clearly and so quickly in Mr. Lewes's case as in that of George Eliot. Had his vitality been a little greater he would doubtless have found relief from his reflex ills instead of death, within a year. Lastly, the analogy of the clinical histories of the two is the more startling when one observes, both died at the age of 61; that a slight cold preceded death by a few days; that, on the day of death, the physicians assured each there was no danger, and that the disease was not serious or organic. There was "no definite ailment," although there had been the most definite ailing for at least 40 years in the one case, and for at least 24 years in the other.

The following quotations are from the letters, or the journal of George Eliot. The figures refer to the age of Lewes when the sentences were written.

"Poor Lewes is ill, and is ordered not to put pen to paper for a month." (37.)

"His poor head—his only fortune—is not well yet." (Do.)

"Mr. Lewes is still sadly ailing—tormented with tooth and faceache." (38.)

"Mr. Lewes's head is still infirm, but he manages nevertheless to do twice as much work as other people." (39.)

"The baby cried at the sight of G. in beard and spectacles." (41.)

"Imperfect health which obliges him very often to leave the desk with hot and aching head." (42.)

"Correspondence made his head hot." (42.)

"Anxious about Mr. Lewes's health." (43.)

"Obliged to lie down with terrible oppression of the head, and since we have been in Rome he has been nearly deaf on one side." (43.)

"Old and rickety." (44.)

"Sore throat and cough continually, so that he came back looking thin and delicate, though the ailments seem to be nearly passed away." (44.)

"G. had a headache so we walked out in the morning sunshine." (44.)

"Mr. Lewes is constantly ailing, like a delicate headachy woman." (45.)

"His dear face looks very pale and narrow." (45.)

"The fog and the rain have been the more oppressive because I have seen them through Mr. Lewes's almost constant discomfort. I think he has had at least five days of sick-headache since you saw him." (45.)

"Mr. Lewes's absence of a fortnight at Spa was a great success. He has been quite brilliant ever since." (45.)

"In miserable health during all this month." (45.)

"Mr. Lewes's frequent *malaise*." (47.)

"George's delicate health. He gets thinner and thinner." (47.)

"All activity, yet is in very frail health." (48.)

"Health at a lower ebb than usual." (48.)

"Much better for the perfect rest, quiet, and fresh air." (48.)

"Alas! We had chiefly bad weather in the country. George was a little benefited, but only a little." (48.)

"We hardly know what it is to be free from bodily *malaise*." (48.)

"Mr. Lewes's bad health driving us to Dorking." (49.)

"George is looking remarkably well, and seems to have nothing the matter with him. You know how magically quick his recoveries seem." (49.)

"George's increasing weakness, and the more and more frequent intervals in which he became unable to work. . . . So we start next Thursday for Bordeaux." (49.)

"He never enjoyed a journey so much, and you will see him so changed—so much plumper and ruddier." (50.)

"I am ashamed of saying about our health—we are both 'objects' for compassion or contempt, according to the disposition of the subject who may contemplate us." (50.)

"Mr. Lewes is acting on the advice of Sir Henry Holland, in giving up zoologizing for the present, because it obliges him to hang down his head. That is the reason we go inland, and not to the coast." (50.)

"Dr. Reynolds advises Mr. Lewes to leave London again and to go to the bracing air of the Yorkshire Coast." (53.)

"June 13.—We have been driven from home again by the state of Mr. Lewes's health." (53.)

"Aug. 4.—We have been sent wandering again by G.'s want of health." (53.)

"We have nothing to divert our attention from our headaches." (55.)

"Now and then has a morning in which he is forced to wander about instead of going to his beloved work." (55.)

"We are languishing with headache from two days' damp and mugginess, etc." (55.)

"Getting more robust in the last two years, and is very bright and active." (55.)

"Mr. Lewes is enjoying his morning at his desk." (55.)

"Dr. Andrew Clark has been prescribing for Mr. Lewes—ordering him to renounce the coffee which has been a chief charm of life to him, etc." (56.)

"We have been invalidish lately, and have put ourselves under the discipline of Dr. Andrew Clark who is not one of the 'three meat-meals and alcohol' physicians, but rather one of those who try to starve out dyspepsia." (56.)

"Mr. Lewes is in a more flourishing condition than usual, having been helped by Dr. Andrew Clark who ministers to all brain-workers." (57.)

"Headaches and rickety." (57.)

"We both hate proof-correcting." (57.)

"His headaches still torment him." (60.)

"Under a regimen for gout." (61.)

"Mr. Lewes continues ailing." (61.)

"So ailing in the midst of our country joys." (61.)

"Continued improvement in health." (61.)

"Haggard in the midst of our blessings." (61.)

"Nov. 23.—He took cold, and the effect has been a sad amount of suffering from feverishness and headache; I have been comforted by Sir James Paget's assurances that the actual trouble will soon be allayed. (61.)

"Nov. 24.—For the last week I have been in deep trouble. Mr. Lewes has been alarmingly ill. To-day Sir James Paget and Dr. Quain pronounce him in all respects better, and I am for the first time comforted." (61.)

"Nov. 25.—Mr. Lewes continues sadly ill." (61.) [Mr. Lewes died Nov. 28, 1878, aged 61 years.]

"Comfort" the old-time practitioner often brought his patient, which perhaps the modern one more often does not. But that comfort in the case of George Eliot and Lewes was assuredly short-lived both as regards relief of suffering and value of prognosis.

What was the disease for which the trips abroad, etc., were ordered? Of what avail were quinin, steel, wet packs, and the rest? What caused the cruel life of agony? What was the disease that killed them within a few hours after "no definite ailment" was assured and the comfort given that "the actual trouble would soon be allayed?" The critics should give a critical answer.

RICHARD WAGNER.

CHAPTER IV.

RICHARD WAGNER.¹

THE following quotations are from the Life of Richard Wagner by Glasenapp and Ellis, and from the volumes of Letters to Heckel, Wesendonck, and Liszt. I regret exceedingly that the reproduction here of so large a number of excerpts is necessary. I have omitted many that it seemed possible to spare and not to spoil the clinical picture. Only by careful reading can one get a clear idea of Wagner's sufferings and symptoms and be thus enabled to come to a sound diagnosis of the one malady that resulted in such various and lifelong symptoms.

"Richard Wagner was born in 1813. . . . His delicate constitution required peculiar care, for he was already troubled with that irritating form of erysipelas (? erythema or eczema) which recurred at intervals throughout life. . . . Down to his sixth year he had no regular lessons; his mother wished to give him time to pick up strength and would not have him plagued with school work. . . . A pale, slim little chap in short-armed frocks, but unruly enough already—thus these traditions show the tiny Richard." (G., p. 61.)

"My good uncle tried his best to put me through some educational training. . . . That I did not profit much by his in-

¹ Published in *The Lancet*, London, and the *Journal of the American Medical Association*, August 1, 1903.

struction was, I fear, my own fault. I preferred rambling about the little country town and its environs, to learning the rules of grammar. . . . I often beguiled my uncle into reading me a story that I might avoid working." (1821 or 1822.)

By night they had to suffer for each other, as both were most excitable and fitful sleepers. . . . Cäcilie had plenty to say of her brother's sudden shouts and talking in his sleep, his laughter and tears in the night. (1822-23.)

To roam about the country was his chief delight. (Do.)

He ranked among the best pupils in that gymnasium from the first and passed through various divisions and classes with fair rapidity. (1822-27.)

He was plagued with his cutaneous malady even in his school days. . . . Repeated attacks of the kind. . . . An attack would be preceded by depression of spirits and irritability of temper. Conscious of his growing peevishness he would seek refuge in solitude. As soon as the attack was subdued his bright animal spirits returned. (Do.)

The refinement and energy of his features and the look of wanness and suffering they wore. (About 1838.)

The prose must be turned into verse and the music composed in a fortnight. . . . His nerves have been so overtaxed that he has "often sat down and wept for a quarter of an hour at a stretch." (1843.)

Constant victimage to a feeble stomach while instrumenting *Tannhäuser*. (1845.)

"My whole being had been so consumed with ardour for my task that the nearer I approached its completion the more I was haunted by the notion that a sudden death would stay my hand, so that when at last I wrote its closing chord I felt as joyful as if I had escaped some mortal danger." (1845.)

Lonely walks. (1845.)

Devoted some five weeks from July 3d to humouring his health as well as his unresting brain would let him. (1845.)

"Despite the doctor's warnings against my engaging in any such occupation." (Working at *Lohengrin*, 1845.)

The doctor's orders were so emphatic against any interruption of his present cure that Wagner was obliged to abandon the outing. . . . The reason for declining was that a determination of blood to the brain, brought on by his exertions of the past season, had not yet left him. (Do.)

Scarcely could he himself say for certain whether his state of health were the cause of his low spirits or they the ground of his feeling so unwell; perhaps it was a little of both. (1846.)

The condition of his health just now is proved by his obtaining a three months' leave of absence "to breathe again as man and artist" in Saxon Switzerland. (1846.)

"Was there any possible way out save death?" (1847.)

He speaks of a sick-bed to which he has been confined for some days. The indisposition must have lasted for at least a month, for in January, 1848, he wrote that he has had a "severe attack of illness." (1847-48.)

He was busy with ideas for a big work from German mythology, but feared he might be too old, and should have undertaken it when younger. (1848, at the age of 35 years.)

The writing of the Niebelungen myth is followed by "a period of great depression." (1848.)

Winter seems to have been always attended with a certain lowering of vitality. Last year we saw it take the form of a serious illness; this year it takes that of a general depression of spirits. . . . He felt "too old" to undertake his *Siegfried*. (1848-49.)

The sole redemption lay in flight from out this life, in casting off its claims on me by self-destruction. (End of 1848.)

Gnawing torments. (1848.)

His warrant describes him as "of medium stature, brown hair, wears glasses." (1849.)

His ancient winter foes return, particularly rheumatism, which this time makes an inroad on his heart. (1849.)

He was thoroughly broken down for the present, what with rheumatism and his recent spell of literary work at high pressure. (January, 1850.)

Feeble, full of pain, unable to sleep, in search of quiet. (February, 1850.)

"I'm happy to tell you I've got to the root of my illness; a violence done to my spirit had aggravated my bodily ailments to a dangerous pitch." (February, 1850.)

He means to take a journey southwards for complete recovery of his health. (March, 1850.)

"I've lost my health, my nerves are shattered. For the present I can live for little more than convalescence. . . . My sufferings became so insupportable that the instinct of life drove me to save myself by breaking with everyone . . . and fleeing into God-knows-what strange land." (1850.)

"Ah, let us above all things get health." (1850.)

"Ill, very ill as I was." (Letter to Heine, 1850.)

"The last pages of this copy I have written in a mood I can intelligibly describe to no one. Candidly speaking, my only wish is to get the hateful manuscript out of the house." (Of *Opera and Drama*, early in 1851.)

Nine years afterwards Wagner refers to the "fatigue" that had come over him when writing *Opera and Drama*, a fatigue that "so sorely weighed upon his brain," that he calls it an "abnormal state of mind."

"Winter is my mortal enemy. . . . My headlong mode of working always tells upon me somewhat severely in the end and I am obliged to recuperate awhile, as usual; for the next few days, accordingly, I cannot undertake the making of a copy for you. . . . To my joy I found music shaping itself to these verses most naturally and easily, altogether of itself as it were. Only, the first beginning of this labour warned me that I should completely undermine my health, if without having thoroughly attended to it, I yielded to my impulse and pursued—presumably without a break—what I had just begun. So I came to this hydropathic establishment. . . . Had I gone to my *Young Siegfried* in my present state, perhaps I should have become incurable by next spring." (Autumn, 1851.)

"I have become a complete water-man. This time I was ten weeks in the hydropathic establishment; only on account of the winter setting in early and with great severity have I given up the cure for the present. However, it was sufficient to give me the clearest foretaste of perfect health, a new and indescribable feeling of comfort, etc." (1851.)

This "water" interlude we may take as a not unwelcome relief in the midst of a more intricate topic. What Wagner had to undergo, however, in the vain attempt to diet his body into a condition of robust health would be past belief in these days of saner physiology, had we not his written word for it. Poor Uhlig himself, its original instigator, succumbed to the effects of a less drastic form soon afterwards. It was nearly a twelvemonth since that Uhlig began pressing his "water views" upon his leader, Wagner then replied, "I only drink water when I feel a thirst for it, yet I am far less sanguine than you." (Oct. 9, 1850.) But the idea soon exercised a kind of fascination over him; in a fortnight he is so far on the road to conversion that he admits its value on the testimony of his younger friend's experience. By Christmas he had commenced to experiment on himself in an amateur fashion: "I, also, am doing a sort of water-cure; besides a sponge-down in the morning, cold water drunk in bed." That does not satisfy the zealot Uhlig; he recommends a "Neptune-girdle," which sounds something like a wet waistband and makes one shiver at the thought of wintry cold in Switzerland. Wagner valiantly attempts it: "I followed your advice about the Neptune-girdle at once. I hope it will suit me. On the whole I feel surprisingly better than last year." (Jan. 20, 1851.) Two weeks later, however, he has paid the penalty of dabbling: "I'm rather unwell. By the advice of a first-rate physician, who also is an advocate of water, I have had to lay aside the Neptune-girdle for a time." And laid aside it appears to have remained till Uhlig came to Zürich and waxed eloquent about the virtues of a system that decidedly had added neither color to his cheeks nor flesh to his bones.

Uhlig, unluckily, did more; he brought with him a water-volume by a certain Rausse and well-meaningly left it behind him. On August 24, 1851, taking a rest after the labor of fair-copying the *Communication*, Wagner relates how he has begun to turn Rausse's theories into practice during the past week: no wine, no beer, no coffee, no soup; only cold water and milk, so far as drinkables are concerned; three to four glasses of cold water in bed before rising, and any number of glasses during the day; baths at home, or in the lake at mid-day; half an hour's walk immediately (!) after food. No wonder he remarks that his head feels "lighter, but often somewhat dull," though he considers the latter a mere passing effect and expects "to end by getting more health than I shall know what to do with." Naturally the end of another fortnight reveals him in a wretched state, so wretched that he has been to consult the proprietor of a hydropathic quackery (September 8th), who equally naturally insists on his coming there to submit to heroic measures. September 16th Wagner goes to Albisbrunn in the commune of Hausen, on the hills to the southwest of Zurich, too ill to think of any *Siegfrieds* for the moment. On the whole, these ten weeks at Albisbrunn appear to have done him temporary good, but rather as a change of air and scene, a relaxation of mental strain, than in any other way. His humor does not forsake him, and it is here that his gigantic plan matures; but when one reads of the treatment to which he is subjected, one can feel nothing save amazement at the power of resistance innate in his constitution. This is how he describes the "cure," a fortnight ere its termination: "My daily programme now:—1. From half-past five to seven in the morning, cold pack; then cold tub (Wanne) and promenade; breakfast at eight, dry bread and milk or water [no butter allowed, as he says in another letter]. 2. Short promenade again; then a cold compress. 3. Towards 12 o'clock a wet rub-down; short promenade; another compress. Then dinner in my room to avoid disrelish [was it, or the sight of other victims, so nasty?]. An hour of idling;

brisk walk for two hours—alone. 4. About 5 o'clock another wet rub-down and a little promenade. 5. Hip-bath for a quarter of an hour, about six, followed by a promenade to warm me [surely in a corridor, for it must have been pitch dark by then]. Another compress. At seven, supper: dry bread and water. 6. Whist-party till nine, followed by another compress; and about 10 o'clock to bed. This regimen I now can manage very well; perhaps I shall even increase it." "I feel myself on the highroad to recovery." (1851.)

The water-cure had "worked wonders," as he fondly imagined for a while. "I am basking in a sense of well-being such as I had never conceived. My indomitable cheerfulness, etc."

At Albisbrunn he had been condemned in the end to baths of but seven degrees above freezing-point; at home he has raised their temperature to the more civilized limit of 55° F., but mental rest is strictly enjoined on him, together with a diet which he describes as "dry bread" and milk for breakfast, dry bread and water for supper; at midday English cooking—*i. e.*, vegetables, boiled, plain, and meat roasted on the spit. . . . The water business he still has at heart.

As for Wagner himself departure from a strict observance of cold water soon was forced upon him by the same consideration that had started it—his health. All through this winter—in fact until next autumn—we hear of one modification or another, in the endeavor to restore a shattered set of nerves, culminating in the lesson of experience passed on to Uhlig next October: "Our water-doctors, one and all, don't know enough about nerve troubles. Constitutions like mine are benefited by none but warm baths, whereas cold ones ruin them entirely. If I can only get my nerves right you'll hear another story!" The same with his teetotalism, which is wisely abandoned at last for an occasional glass of good wine. Had he but had his good Dresden doctor, Pusinelli, within arm's-length, instead of various experimenters on a bodily constitution they understood as little as his critics his artistic

theories, perhaps the music for the *Nibelungen* might have actually been finished in not much over the three years originally propounded for its term. But the awl of the amateur health-cobbler was picked up first by one friend, then by another, till the letter last quoted avows: "For the present my doctor is Herwegh; he has great knowledge of physics and physiology and is more sympathetic towards me in every respect than any physician who is not at the same time a friend." (1851-1852.)

"... My previous continual anxiety about my health has also now been relieved by the conviction I have since gained of the all-healing power of water and of nature's medicine; I am in the way of becoming, and if I choose of remaining, a perfectly healthy man. If you wretched people would only get a good digestion you would find that life suddenly assumes a very different appearance from what you saw through the medium of your digestive troubles." (November, 1851. Letter to Liszt.)

"I am now living for nothing by my health. . . . I am taking a rest after the somewhat trying effects of my late cure." (December 14, 1851.)

"This winter I shall idle for my health, only sketching as thoughts occur to me." (1851.)

"For the recovery of my youth, for health, nature, an unreservedly loving wife and a flock of children I would barter *all my art!* There, take it! Give me the other." (January, 1852.)

"I am daily thinking of my death." (1852.)

"I cannot pull round as yet and am suffering from sleeplessness, with great dejection." (Ditto.)

It is to no water establishment that Wagner goes next spring, as once proposed; his faith in that drastic regimen has been rudely shaken during the last few months. Moreover, "it is quite impossible for me to spend half a year at a hydro." . . . Not long ago he had heard of a certain Dr. Karl Lindemann, a fellow-exile, then "working remarkable cures in

Paris with a marvellously mild water régime. His specialty seems to be nervous disorders." So he had written Lindemann a detailed account of his symptoms and received a regular chart of instructions to cover a protracted period; for diet chiefly game simply cooked, with a glass or two of good wine; his baths to be tepid rather than cold; the main affair—"I'm to keep quiet and write poetry." (May, 1852.)

"The open air is doing me much good; every morning I roam about for two or three hours before setting to work. My working time I don't extend beyond two hours a day: it was by frequently working five to six hours that I taxed my nerves before. I have finished the entire draft of the *Walküre* now." (May, 1852.)

His lonely walks. (May, 1852.)

"The nerves of my brain are so overwrought that even these few lines set me in a violent commotion. I find that I may be able to do something good, but only on condition that I keep a strict watch on myself, and especially that I interrupt my work often and completely divert my thoughts before going on again." (May, 1852.)

"Yesterday I finished my *Walküre* after a month of work . . . once more I am somewhat severely knocked up: no doubt I work at too high pressure." (July 2, 1853.)

"When I've finished a thing like the *Walküre* I always feel as if I had sweated a huge anxiety out of me, an anxiety ever increasing toward the end of the work, a kind of dread lest I should spoil something; my signature and date foot the page as though the devil were standing behind me trying to stop my last stroke. Much the same had it been with the scoring of *Tannhäuser*; the nearer I approached the completion the more I was haunted by the notion that a sudden death would stay my hand; only there is a new element here. 'Lest I should spoil something.'"

"We sedentary animals scarcely deserve to be called men. How many things we might enjoy if we did not always sacrifice them to that damnable 'organ of sitting still.'" (1852.)

"I am walking capially, quite strong on my legs; only I'm not contented with my head as yet. The nerves of my brain are hideously out of order—agitation or prostration—never any time true repose." (July, 1852.)

"My digestion has been in a very bad way of late." (Do.)

"Peace I did not find. It's all up; there's no youth left in me; to live stands no longer before me; all my making and doing can now be nought but gradual decay. The nerves of my brain!—there's the trouble." (August, 1852.)

"Unfortunately I can work but slowly, as everything is an uncommon tax on my brain just now. Only to-day have I finished the MS. of my address on the Performing of *Tannhäuser*. . . . It has taken much out of me and I shall have to try to rest it off." (August, 1852.)

Throughout the whole of these six months we hear one constantly repeated cry of "headache," as if the twofold strain upon the mind were wearing out its organ. At no other period does the physical suffering appear to have been at once so acute and so protracted. Is it a condition normally attendant on the birth of a colossal masterpiece? "My health is none of the best, and although my body looks fairly robust, my nervous system is in a serious state of increasing exhaustion. Through this everlasting life of phantasy without any corresponding reality, the nerves of my brain are so severely overwrought that I can only work by spurts now, and with long interruptions, if I don't mean to become a complete and chronic wreck." (Do.)

From the perpetual expression "the nerves of my brain" ("meine Gehirnnerven"), coupled with the apparent "robustness of body," I should argue [writes Ellis] that the malady was nothing deeper-seated than megrim, *alias* migraine or "sickheadache"; but anyone who has ever been a victim to that scourge, similar in many of its nervous symptoms to "influenza," will recognize the sheer impossibility of mental application when an attack is in full swing. The various forms of dieting, to which Wagner had subjected himself, would only

tend to lower the general tone of the nerves, and thus exacerbate the malady. "You people musn't talk theory any more to me just now; it sends me clean crazy. The nerves of my brain!—there's the mischief. I've terribly assaulted them: it's quite possible I may yet go mad!" (August 9th, 1852.)

And so it goes on, with variations of the same complaint (chiefly addressed to Uhlig), at least until the *Rheingold* poem is completed and the greatest load thus discharged from his mind. At first, in fact, it is impossible even to think of poetry. "I've written Heine to-day. My head is not yet clear enough for working." (August 11th.)

"Unfortunately I'm getting on very slowly [with the *Tannhäuser* Guidel], as all manner of work tries my head uncommonly just now." (August 14th.)

"If my head were but better! With that cursed brochure, which I rushed at last so as to polish everything off, I ruined myself again. Often it's like a sharp knife cutting into the nerves of my brain. Moreover I'm feverishly tired in all my limbs; but if only my head will recover, they also will rapidly improve; on it—that laboratory of the imagination—depends everything. . . . Think of it! even this letter almost knocks me down." (August 30th.)

There cause and effect are plain as can be: the *Tannhäuser*, with all the correspondence involved, has told severely on an excitable system, and the "nerves of his brain"—scientifically speaking, the region round about the optic thalami—must pay the penalty. That "sharp knife" cutting, the "feverish tiredness in the limbs," and the sense of impending evil, are the very symptoms of megrim; the attacks of which, especially if brought on by mental labour, may sometimes be prolonged for several days by successive relapses. (Sept. 5th.)

"Only two lines: I mustn't write, because I can't; that's how things stand with me"; and after barely a dozen lines, "I can write no more. Goodbye." Three days later an equally short letter, so unusual in this correspondence, ends

with "That's all I'm able to squeeze out to-day. Don't take it amiss!" (September 8th.)

On the same date a notable letter to Liszt about Raff, Berlioz, and new creations begins and ends as follows: "Unluckily I can't reply to you as I should wish. The nerves of my brain are so racked again that I have had to give up all writing and reading for a while—I might almost say, all mental existence. Every letter—even the briefest—knocks me terribly up, and nothing save the greatest quiet (where and when?) can—or rather, could—put me really right. . . . I can write no more now! Don't be cross with me! My head is high bursting! I'll just hurriedly add the warmest farewell I have in my heart." Another three days later: "My head is still bad and all my nerves upset, in consequence of this eternal friction with an invisible load outside. . . . Farewell, I must stretch myself full-length on the divan, to close my eyes" (to Uhlig, September 11th). Next day we have the letter to Roeckel cited a page or two back. A week after that: "I am growing accustomed to the ruin of my nerves; one can always do a little something with them still. . . . Today is the federal fast-day and for the last week the Föhn has been enough to make one wish one's nerves at the devil." The Föhn is a moisture-laden south wind peculiar to the valleys and lakes of Switzerland, but similar in its general effects to the sirocco so prevalent at Venice, etc. Its humidity would really seem to have eased the writer, however, much as a vapour-bath might; for not only does he indulge once more in a good streak of his pristine humour in this letter of September 19th to Uhlig, but also has important news for us: "My condition isn't a hair's breadth better yet; only I'm gradually accustoming myself to a fresh degradation of my health; I'm accommodating myself to it, and even work a little hour a day now!"

Progress with the poem was by no means break-neck at first, "a little hour a day." Nor even every day, for a fortnight later the intimation to Liszt runs: "My nerves are still none of the best, yet I have begun to work a short hour a day at my poem again, off and on." (October 3d.)

"I shall tell you nothing about my work; it's going slowly, but well! Fare well and healthier than me. I shall shortly go crazy!" (Oct. 5th)—a repetition of the fear expressed two months ago. Before a week is out, the poem has to be laid aside: "That I am able to write you at all today, is simply due to my decision to make a forced pause in my poetic work, not to fall once more into that fatal condition the most painful effects of which I have only just outrun a little. Letter-writing, however, I now am convinced once for all, severely taxes me, and you may flatter yourself if I manage even to fill this sheet of paper. If the weather were not so inveterately bad I should have started today on a couple of days' excursion. Already I had mapped out a tour to Glarus and Schwyz. Unfortunately, with this eternal gray dampness of the atmosphere, I shall have to abjure any pleasure-trip; simply my afternoon walk I keep up, mostly three to four hours, however hard it rains, albeit with a hang-dog sort of pleasure." (October 11th.)

By no means is he out of the wood with his nerves, for he has to send apologies through Uhlig to another correspondent next day for not answering at once. "That sort of letter always takes a deal out of me." Not a word about the poem nor in that to Liszt on the morrow. (October 13th.)

"Nothing further today. Used up as I am it would only be lame . . . Your old tormentor, Richard Wagner." On the 14th, just three days after the "forced pause" has been made in his poem, the migraine seems to have renewed its attack. "I wanted to work, but felt so ill that I had to pass the whole forenoon on the divan, half asleep, half awake. There'll have to be an alteration in me."

"That I have been unable to work today has terribly depressed me. How I should have liked a couple of days' out, but the weather is too vile—regular 2d December."

So *Rheingold* is half-finished, apparently by October 10th. That half has taken something like four weeks to versify, or as long as the whole of *Die Walküre* last June, owing to its

author's wretched health compelling him to work in snippets. And it must have been followed by another acute relapse, since not a line stands written to any of his correspondents between the 14th of October and the end of that month. November 1st we again hear of the poem at last, in terms that suggest its having been resumed about a week previously: "You'll get but half-a-dozen lines today, dear friend [Uhlig]. After some interruption (through being unwell) I have arrived at devoting all my power of application exclusively to the completion of *Rheingold*, and shall not stop myself to write long letters before I'm through with it. That, however, will be during the course of this week, at the end of which I therefore promise you a proper letter." November, 1852, began with a Monday; by the 3d or 4th, then, *Das Rheingold* was finished as to its verses; for Uhlig is told on the 10th: "The middle of last week I completed my work, very much exhausted." Scarcely more than ten days can this second half of *Rheingold* have taken him, so that he must have doubled his "little hour" of late. As a matter of fact, the next letter to Uhlig will satisfy our minutest curiosity even on that point: "The postman comes at 11 o'clock every morning; I usually work from 9 o'clock until that hour, and therefore am already somewhat tired and in need of rest when my letters arrive. This places me in the alternative of either not answering at all, or doing it as briefly as possible; if I put it off, it's precisely the same next day, unless I stop my work entirely for one morning, as happens when I mean to write a longish letter. From noon to bedtime I never write another line, except in the most pressing emergency."

When the poems of *Young Siegfried* and the *Walküre* were finished, we found their author giving vent to the utmost joy; there is nothing of the kind to celebrate the consummation of the *Rheingold* poem. Partly due to the fateful lesson of the work itself, the greater share of this lack of elation must be assigned to the same cause that had impeded the poem's progress: excessive nerve fatigue. The letter that

announces the event to Uhlig—and a very long letter it is, as a rest is being taken—for the most part consists of reflections on death and diet: "Let us be reasonable, dear friend, and recognize in utmost calm that every one of us bears within himself the genetic seeds of his own death, and that the only question is how to stave off that specific death as long as possible. With myself, *e. g.*, everything tends to death through nerve-consumption. . . . So long as I still have an object in life, I wish to keep death from my throat, and for that reason adopt all feasible expedients to preserve myself. I purposely avoid all over-exertion, step out of the way of all over-excitement as much as possible, try to regulate my feeding and digestion, and aim above all at the utmost comfort, repose, agreeable impressions—so far as I can. I'm assured by many that I still may jog along awhile if I strictly observe this diet, and analogies are making it credible even to myself. . . . Simple foodstuffs are not for such as you and me: we need the complex substances that offer the utmost nourishment with the smallest demand on the power of digestion. Our rule should be to eat often, little and good, at the same time to avoid all great exertion, even in bodily movements, but be careful for comfort and agreeable rest." It is the valetudinarian's gospel; but, when the invalid happens to have such an "object in life" before him as the composition of a *Ring der Nibelungen*, it becomes his absolute duty to take care of himself for sake of the world.

The same complaint of nerve-fatigue that formed a running accompaniment to the *Rheingold* poem ushers in the revision of the two *Siegfrieds*: "I must stop; my head's getting bad." (November, 1852.)

"Uninterrupted work has again strongly affected me and the nerves of my brain are so overwrought that even these few lines put me in a state of violent excitement, wherefore I must ask you not to be angry if I make them very short." (1852.)

"I feel that I am still capable of doing good things but only by keeping very strict diet, and especially by frequently inter-

rupting my work and entirely diverting my thoughts before going on again." (Do.)

"The *Valkyrie*, the poem of which I finished on July 1st, I wrote in four weeks; if I had spent eight weeks over it I should now feel better. In future I must adopt this course." (Do.)

"Unfortunately I cannot reply to your letter as I should like to do; the nerves of my brain are once more in a state of great suffering, and for some time I ought to give up all reading and writing, I might say all mental existence. Even the shortest letter wearies me terribly. . . . I only wish to explain to you why it is that today I must limit my communication to stating briefly what is absolutely necessary. . . . The work has been a perfect torture to me. This eternal communication by letter and print is terrible to me." (Do., September, 1852.)

"I am going from bad to worse every day and lead an indescribably worthless life. . . . Perhaps you will soon be rid of me." (November, 1852.)

"My terrible melancholy." (January, 1853.)

"In case I should die during the work." (February, 1853.)

"How long I shall endure this terrible joylessness I cannot tell. About the middle of last month I was on the point of succumbing and thought that I should soon have to follow my poor Uhlig. I was persuaded to call in a doctor, and he, a careful, considerate, and conscientious man, takes much trouble with me. He visits me nearly every other day and I cannot but approve of his treatment. Certain it is that if I do not recover it will not be *his* fault. . . . For me there is no salvation but *death*. Would that it found me in a storm at sea, not on a sick bed!" (February 11, 1853.)

"I can only live in extremes—great activity and excitement and—most perfect calm." (March 4, 1853.)

"My nights are mostly sleepless." (March, 1853.)

"Whether the cure has been of any use to me the future must show, but upon the whole I am not inclined to repeat it." (At St. Moritz, July, 1853.)

"The foolish man wants to hear something from me about his book, but as soon as I bend my head a little towards *theory* the nerves of my brain begin to ache violently and I feel quite ill." (Do.)

"Truly writing is a misery, and men of our sort should not write at all." (August 7, 1853.)

I am in a miserable condition and have great difficulty in persuading myself that it must go on like this and that it would not really be more moral to put an end to this disgraceful kind of life. . . . To cure my sick brain the doctor has prevailed upon me to give up taking snuff altogether; for the last six days I have not taken a single pinch, which only he can appreciate who is himself as passionate a snuff-taker as I was. Only now I begin to perceive that snuff was the solitary real enjoyment that I had occasionally, and now I give that up too. (August, 1853.)

I am back again in Zürich, unwell, low-spirited, ready to die. . . . At Genoa I became ill, etc. (September, 1853.)

I have many things to tell you but my head is burning. There is something wrong with me; and sometimes with lightning-like rapidity the thought flashes through me that it would be better after all if I died. (December, 1853.)

Rheingold is done, but I also am done for. (Ditto, January, 1854.)

I went to this music with so much faith, so much joy; and with a true fury of despair I continued and have at last finished it. . . .

With my terrible care my violent nervous disorder has also returned. . . . "With myself things are going from bad to worse each day; 'tis an indescribably good-for-nothing life I'm living! Of actual enjoyment of life I know absolutely nothing; to me the 'pleasure of life, of love' is purely a matter of imagination, not of experience. So my heart has had to pass into my brain and my life to become a mere artificial one; only as 'artist' can I still live; into the artist has my whole 'man' been resolved. If I take account of the wretched state

now normal to me, I cannot but deem my nerves ruined; strange to say, however, these nerves do me the most wonderful service when put to it, when sufficiently fine incentives come to me; then I have a clearness of vision, a sense of pleasure in perceiving and creating, such as I never knew before. Ought I to call my nerves ruined then? I cannot. Only I see that—in the way my nature has developed—its normal state is exaltation, whereas the ordinary calm is abnormal to it.” (January, 1854.)

This having to make a clean copy kills me. . . . The continual writing tires me to such an extent that I feel quite ill and lose the inclination for real work. (March, 1854.)

This dislike of work (composition) is the worst feature of all. I feel as if with it eternal night were closing around me. (May, 1855.)

“My frequent nervous headaches.” (Letter to Wesendonck from London, 1855.)

“My mental disharmony is indescribable; sometimes I stare at my paper for days together,” without remembrance or thought or liking for my work.” (Letter to Liszt, July, 1855.)

“After much trouble the first half of the *Valkyrie*, including a clean copy, has got finished. . . . For the last week indisposition has prevented me from doing anything and if this goes on I almost doubt whether I shall be able to finish this work from the sketches.” (Do.)

“I am making a tentative effort to rise from the sick bed on which I have lain again exactly three weeks . . . I have suffered from continual attacks of erysipelas of the face.” (December, 1855.)

“I am again, or rather still, unwell and incapable of anything.” (January, 1856.)

¹ Compare this with the experience of Carlyle (vide p. 70 of “Biographic Clinics”) who in the same way and from the same reason had to work “in a red-hot element,” “with his heart’s blood in a state of fevered tension,” etc.

² Compare similar expression by Carlyle.

"I am continually at war with my health and fear a relapse at any time."

"I am waiting to see what my health will do; my doctor wants to send me to some watering-place, but to this I will not, and cannot, agree." (During 1856.)

"Again on a sick bed. Today I am scarcely recovered and fear another relapse. . . . If I could only be well again! . . . Another attack of erysipelas. . . . This abominable illness has brought me very low. . . . The slightest disorder of my stomach immediately affects my complaint." (Do.)

"In that terrible month of May I was able only to look at your scores with a tired eye and as through dark clouds."

"My only care now is the perfect recovery of my health."

"God knows I castigate my flesh by this cure . . . placed myself under Dr. Vaillant who conducts a hydropathic establishment here. . . . I feel sure of being completely cured of my ailment which, after all, was caused by nervousness. . . . During my cure I must not think of doing any work." (July, 1856.)

"My catarrh has developed so that I may hope it will rid me of my usual winter illness. My health, too, is once more so bad that for ten days after I had finished the sketch for the first act of *Siegfried* I was literally not able to write a single bar without being driven away from my work by a most alarming headache. Every morning I sit down, stare at the paper, and am glad enough when I get as far as reading Walter Scott. The fact is I have once more overtaxed myself and how am I to recover my strength? With *Rheingold* I got on well enough but the *Valkyrie* caused me much pain. At present my nervous system resembles a pianoforte very much out of tune." (January, 1857.)

"Imagine that for a week and a half I have not been able to move from my chair. This illness was just what was required to finish me up. I had just resumed my work a little after a gastric and nervous indisposition, when I was obliged to give in again." (December, 1858.)

"The weather is bad; I am absolutely alone and seldom in the right mood for work. So I drag on amidst mists and moods."

"My health still gives me much trouble."

"My health is ruined for want of life and action."

"The last act of this child of sorrow (*Tristan*) is now on the verge of 'to be or not to be'; a slight pressure of some spring of the vulgar fate, at whose mercy I am, might kill this child at the very moment of its birth. Everything with me depends now upon the turning of a hand; there may be a way and there may be a stoppage, for I, my Franz, am in a bad way. . . . How miserably weak I feel as a musician. I know in my heart that I am an absolute blunderer. You ought to watch me when I am at it; now thinking 'it must do after all,' then going to the piano to puzzle out some wretched rubbish and giving it up in a state of idiocy." (1859.)

"I feel as if I should break down in sight of the goal. Once at least every day I look at my book (*Tristan*) with a right good will, but my head is waste, my heart empty, and I stare at the mist and the rain clouds, which, ever since I have been here, have debarred me even from the chance of shaking up my stagnant blood by pleasant exertions . . . work alone is to help me, but who is to help me to the possibility of work?" (Do., 1859.)

"I have been severely ill these four weeks and my recovery is scarcely noticeable. I am still extremely weak. . . . I begin to perspire, and can write no more." (1859 *passim*.)

"I cannot write at greater length . . . because I must absolutely conclude these lines." (Do.)

"I am very slowly regaining strength. What impedes my recovery, and indeed makes it impossible for the present, are the extraordinary exertions and excitements to which I have to expose my health, which is gradually coming back to me. . . . The proofs of *Rheingold*, which Messrs. Schott would have liked so much to have published at Christmas, have been

lying on my table for seven weeks without my being able to make any progress with them." (Letter to Liszt, 1860.)

"I seek rest and happiness no longer, but only breathing-space for new labors, from which *I* reap the least enjoyment." (Letters to M. v. M., 1860.)

"His exertions brought on a serious illness which threatened to develop into brain fever." (Ellis, 1860.)

"I am doing my best, at the doctor's orders, with all kinds of strengthening diet." (Letters to Wesendonck, 1860.)

"Richard's illness, lasting full fourteen days came from exertions in helping his two singers with Tannhäuser. He may also have caught a slight cold, which made him still more nervous although without this he is always irritably nervous. He also had a high fever, but he was not confined to bed. . . . Alas, Richard is a very impatient patient . . . he did not keep warm enough, and from a fresh cold his eyes became inflamed. But this was overcome by our excellent physician, so that at present he can again read and write." (A letter from his wife, from Paris, Nov. 14, 1860.)

"Through my weeks of illness."

"A night slept through from 1 to 8 A. M. is an ideal happiness to me which I only taste as an utter rarity." (1861.)

. . . travelled to the south of France by his doctor's advice. (1865.)

"A doctor, whom I have consulted, recommends me Cannes." (Letter to E. W., 1864.)

"I was hindered by terrible sickness from continuing my journey that day." (1864.)

"People often call me irascible when I am simply ill," he used to say. (Fink.)

"From 1866 to 1872 at Tribschen Wagner displayed a creative activity which was simply incredible. . . . Happiness has no history. The six years at Tribschen were the happiest of his whole life." (Chamberlain.)

"Truly all our politics, diplomacy, ambition, feebleness, science—unfortunately too all our modern art—all these parasitic

growths upon our life have no other soil upon which they flourish than our ruined stomachs." [He seems to have thought vegetarianism "the key-stone of regeneration."] "We must abstain from meat and alcoholic drinks." [Only adopted for a while.] (Letter to Liszt.)

"I shall devote next summer to nothing but the possible recruiting of my health—for which, on account of the wearing and increasing pains in my abdomen, I think of taking a very protracted course of waters at Marienbad. If I find myself restored to health . . . In one of my perpetually sleepless nights I have tried to gain a little ease." (Letters to Heckel, 1876, p. 99.)

"In 1878 a medical examination showed amyloid degeneration of the liver, spleen, and kidneys." (Ellis.)

"I am at the commencement of a course of waters, which may be very prolonged." (To Heckel, 1879, p. 118.) He had "a serious illness" in 1880. [Serious organic diseases at this time having set in.]

"Only to-day do I write you, as this mournful business had to be postponed because my health is such that my dear wife was afraid even to impart to me the news of the sudden death of your father." (Do., 1882, p. 127.)

"During the last few months there was much dyspnea, especially after meals, but he was also busy writing several hours every morning." (Ellis.)

He died February 13, 1883. The necropsy showed a much dilated stomach, internal inguinal hernia, much dilated heart with fatty degeneration. Death occurred directly from rupture of the right ventricle.¹

¹ The letters to Dr. Pusinelli, published in the *Bayreuther Blätter* in 1902, have been kindly sent to me by Mr. W. Ashton Ellis. They bear dates from 1843 to 1878. They begin with, "I have headache," and continue with complaints of bad weather and bad health; of growing old and loss of joy (aged 33 years); of increase of illness; working at composition with

Headache, "sickheadache," "dyspepsia," "nervousness," melancholy, insomnia, indescribable suffering—these were some of the more prominent symptoms that, in various mixtures, rendered so miserable the lives of De Quincey, Carlyle, Darwin, Huxley, Browning, Spencer, Mrs. Carlyle, Whittier, Margaret Fuller Ossoli, Nietzsche, George Eliot, Lewes, and Parkman. Some of them had some of the symptoms all of the time, some had all of them some of the time. Wagner had all of them all of the time. All of them found these symptoms exactly proportioned to the amount of reading and writing that was attempted, and when the eyes were driven to their unphysiologic function the symptoms increased in intensity until life itself was threatened either by the disease or by the despair of the patient. Darconsequent frightful suffering; with prayers for peace, peace; moans at the uselessness of life; regrets at inability to get a good photograph; and sleeplessness. Baths and douches drive him nearly crazy. There is longing for his natural joyfulness; reiteration of physical and mental exhaustion; the thought of suicide; emphasis of his irritability and of his inability to write another line, etc. An illuminative and instructive excerpt is this: "As regards my health, I appear to those who should know as an instance of a peculiar order of men destined to a long life of work. I am very sensitive and irritable, quickly becoming feverish and perspiring, but never really ill, and recovering from indisposition so soon that I seem ridiculous." This was in 1870 when presbyopia and the release from overuse of his eyes brought happiness and peace. Thenceforth there is no complaint, in these letters, of functional disease.

win and Wagner kept up the sad belief in the therapeutic uses of hydropathy all their lives. Carlyle and Parkman tried it, but soon perceived the folly of it. Every one of the twelve learned that the only cure or relief to be found consisted in stopping reading and writing—*i. e.*, in the non-use of the eyes at near range, and in out-of-door exercise.¹ In addition to all the affections mentioned, Wagner had the mercuric artistic temperament, endured the bitterest mental anguish from the nonrecognition and hate of his musical works, and he was poor. He also suffered all his life from an intercurrent affection, erysipelas, which is a disease dependent upon denutrition. There can be nothing in medicine more certain than that eyestrain causes denutrition, and nothing more certain than that Wagner had terrible eyestrain.

It should be noted that Wagner was a "delicate

¹ The alert-minded reader will find in his biographical reading constant proofs of the role of eyestrain which have hitherto escaped notice. For instance, of Adolf, the uncle of Richard Wagner, a man devoted to literary work, I find the following suggestive paragraph: "His bodily strength now commencing to fail with the advent of maladies brought on by the sedentariness of his occupation, Adolf resumed his favorite exercise of old, long walks, which he did not abandon until a year or so before his death. 'For a year and a half or more I suffered from excruciating headaches; neither the allopathic nor the homœopathic doctors, for all their promises, helped me in the slightest. Spring came; I tore myself from my work, said good-bye to thinking, and trudged for several miles a day—and still am doing it in November whenever the weather

boy," "a pale slim little chap," needing to "pick up strength," not profiting by instruction, liking others to read to him, "preferred rambling," "roaming about the country," an excitable and fitful sleeper, shouting and talking in his sleep, etc. But the intellectual and keen mind soon realized the sense of responsibility, and the boy picks up his school work equal to the best from his ninth to his fourteenth year, but at 25 years of age his features have "the look of wanness and suffering." All of this is an excellent description of children who suffer from eyestrain and can be duplicated from the case records of ophthalmologists many times.

At about 30 years of age an excess of writing work is not wet or boggy." Perhaps a more striking case is that of Beethoven. At the age of 53 years, when presbyopic strain is usually at its height, I find the following note by Mr. Ellis: From April to mid-August, 1823, the period in which the Ninth Symphony was actually written, Beethoven was a martyr to (neuralgic?) pain in his eyes, for the only time in his life. Nor was that all. On August 16th he gives his nephew a catalogue of his various ailments, which are such that he fears "they will soon cut short the thread of life or wear it gradually away." A few days afterwards he writes his Archduke Rudolf from Baden, "I came here on the 13th very ill, but am better now. I had recently been attacked again with my catarrhal affection; besides that, my bowels in the most wretched condition, and then also the trouble with my eyes; in brief, my organization was entirely shattered" (see *Die Musik*, 1902, pp. 1155-1160). Save for the special symptoms of the eyes one might have mistaken it for Wagner writing to Uhlig.

overtaxed his nerves so much that he "often sat down and wept for a quarter of an hour at a stretch" and he was a constant victim of a feeble stomach. At this time an extreme amount of work with his pen brought on the idea of sudden death which in the same circumstances reappeared many times during his life and threatened to drive him to suicide. The medical man warned him against work, fearing the "determination of blood to the head," and ordered leaves of absence for three months, etc.¹

With each increment of added accommodation-failure things go from bad to worse every year, until at the age of 35 years Wagner feels "too old" for undertaking his greatest art-work. Depression and suffering, "broken-downness," always follow near-work with the eyes, and especially so in winter, his "mortal enemy," when vitality was always lowered, because there was more confinement in the house and

¹ As I write this a patient comes in bright and happy and healthy who two months ago was the absolute reverse of these things and whose life had been made as miserable as that of Wagner and from the same cause. In his melancholy and suffering his greatest danger had been suicide. Great nerve specialists had drugged him to stupor or had "rested" him nearly to death. Luckily he escaped the hydropathist and Christian Scientists. On this same day I also received bitter criticism from a great ophthalmic surgeon that I am an exaggerator and hobby-rider. A great rest-cure man does not even acknowledge the receipt of a complimentary copy of "Biographic Clinics." And so on.

hence more reading and writing. A hundred statements grow ever clearer and clearer that writing and reading are becoming more and more impossible, produce greater and greater suffering, and that after each opera, poem, or literary work the ill-health is more tragical. He cannot even undertake "to make a copy"; music-writing is "natural and easy" and yet at the very beginning of such labor he is warned that he will undermine his health. Finally, "the nerves of his brain are so overwrought that the writing is reduced to two hours a day, instead of five or six as formerly, and the writing of a few lines of a letter sets him in violent commotion." As all ophthalmologists instruct their patients, so Wagner found by experience that he had often frequently to interrupt even his two hours a day of eye-work. Every job of composition or writing "takes much out of him" and he has "to rest it off." Headache, sleeplessness, the "working by spurts," "with long interruptions," a hundred such expressions occur, and the fear of death, the longing for it, or the resolve to seek it, is constantly reappearing. Hundreds of such expressions as the following could be gathered: "If my head were but better"; "I shall go mad"; "the sharp knife cutting into the nerves of my brain"; "feverishly tired in all my limbs"; "even this letter almost knocks me down"; "I *mustn't* write, because I can't"; "my head is nigh bursting"; "every letter knocks me terribly up"; "the

nerves of my brain are so racked that I have had to give up all writing and reading for awhile"; "I even work a *little* hour a day now"; "a short hour a day now off and on"; "I shall shortly go crazy"; "letter-writing, I am now convinced once for all, severely taxes me, and you therefore may flatter yourself if I manage to fill even this sheet of paper"; "completed my work very much exhausted"; "from noon till bedtime I never write another line"; "writing a longish letter prevents all other work that day"; "I must stop, my head's getting bad"; "even these few lines put me in a state of violent excitement"; "I ought to give up all reading and writing"; "even the shortest letter wearies me terribly"; "my work has been a perfect torture to me"; "this eternal communication by letter and print is terrible to me"; "my terrible melancholy"; "my nights are mostly sleepless"; "as soon as I bend my head toward theory the nerves of my brain begin to ache violently and I feel quite ill"; "truly writing is misery, and men of our sort should not write at all"; "the *Rheingold* is done, but I also am done for"; "this having to make a clean copy kills me"; "I begin to perspire and can write no more"; "the proofs are lying on my table for seven weeks"; "farewell, I must stretch myself full length on the divan and close my eyes." This poor patient may be excused for not recognizing the simplest conclusion that the eyes were at the bottom

of all this suffering. With difficulty, however, may the medical men of his day be excused, and there is no excuse for the most cruel of crimes, the brutal obstinacy which today makes a few ultra-conservative physicians, and even some careless ophthalmologists, deny that such symptoms in thousands of patients are due to eyestrain and are daily cured by its correction.

Even today men are wet-packed, as Wagner and Darwin were all their lives, for astigmatism. The silly superstition that there is any mysterious virtue in cold water has been, and is still, filling the pockets of quacks and exhausting the vitality of numberless patients. Let one with open mind read the hydropathic histories of Darwin and Wagner and not have his gorge rise with indignation. The sole good done by this nonsense, to offset the enormous evil, was that while shivering in dripping sheets the poor eyes and brain could not be doing reading and writing. Hence the little seeming good, the raised hopes, and the succeeding despair when ocular strain was again resumed.

Wagner's 'clearest symptom was "sickheadache"; migraine, megrim, hemicrania, nervous headache or bilious headache are other names for this terrible affliction. It causes a large number of other symptoms and is itself of an infinitely varied type, according to the kind of near work required and the kind of organism of the patient. I have had thousands of patients with this disease and 99 out of every 100 were cured by

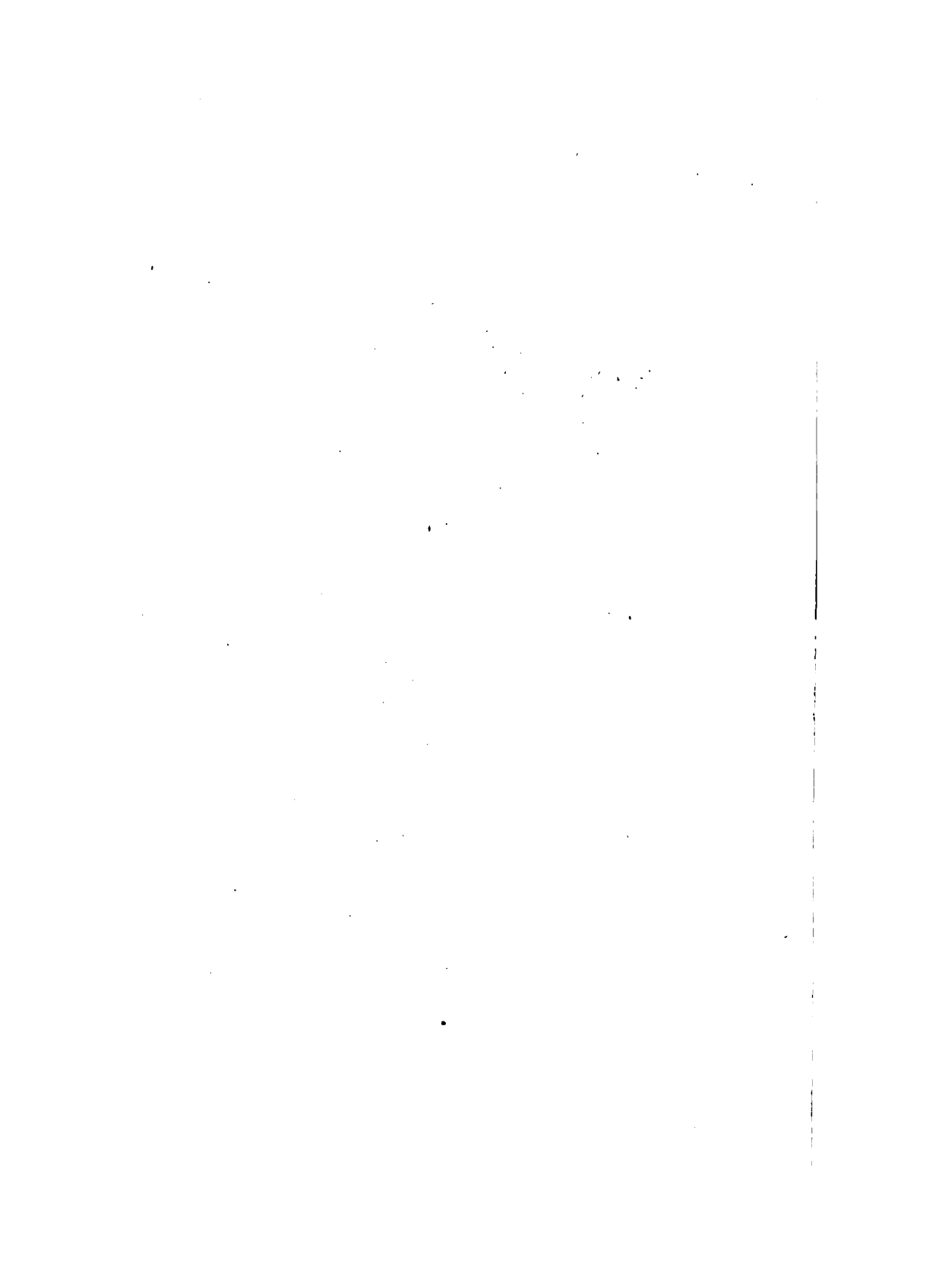
spectacles. That sickheadaches often disappear at the age of from 50 to 60 years is due solely to the fact that presbyopia makes eyestrain impossible. That the wrecked nervous system may sometimes go on exhibiting the symptoms after the exciting and direct cause has ceased is a truism not only of medicine but of common sense. "From 1871 onwards he had an immense amount of business to transact," writes Mr. Ellis to me, "in connection with the building of the Bayreuth theater, etc., but of specific complaint of headache I nowhere find a trace in the later years." All the symptoms of Wagner's functional diseases ended with the establishment of presbyopia. The sickheadaches, the melancholy, the fear of death, the resolve to commit suicide, the nervousness and the insomnia ended then, not because the King of Bavaria came to the rescue of this greatest of musical geniuses, not because the wrong wife went and the right one came, not because success and popularity arrived, but because his wife acted as amanuensis, etc., and therefore he was not driven to the maddening eye-labor, and because presbyopia prevented the suffering which was the result of the least of such labor. One eye at last went out of function and this helped also to establish relief.

In Wagner's warrant he is described as "wearing glasses." Outside of that simple statement none ever seems to have seen him doing so or to have spoken of



RICHARD WAGNER (Lenbach).

(By the courtesy of Messrs. Dent and Co., the publishers of Chamberlain's
"Richard Wagner.")





RICHARD WAGNER (Lenbach, 1874).

(Reproduced from Chamberlain's "Richard Wagner" by the courtesy of Messrs. Dent and Co.)

the fact. Mr. Ellis has proof that seems to him pretty good that he did not wear them. It is of no consequence whatever. Any spectacles he could get would not have neutralized his eyestrain. Were he living today he would in all probability not find any oculist or physician in Germany that would help him or care to help him in the one possible and effective way. There are a hundred oculists, nerve specialists, and general physicians, even in the United States, who would smile scornfully at the idea that a patient having Wagner's symptoms could be cured by the correction of his ametropia. Fortunately, there are hundreds of others who know the truth, and better, who practise it.

All through the latter part of Wagner's life he had one symptom, one of those which physicians call "objective," one that is alluded to, so far as I know, by no written word. In speaking to a great musician who knew Wagner, I mentioned this symptom, when he broke in with, "Of course! I had often observed the fact, but thought nothing of it!" This symptom, which all of his physicians also ignored, comes out in most of the later photographs and the portraits, especially in those of Lenbach, the realistic painter. The left eye is turned out and up. (Consult the portraits herewith reproduced.) Some American oculists call this defect "hyperexophoria." In the effort to drag the eyelid away from, and above, the pupil of this eye, it will be noticed that the forehead is arched and wrinkled

in concentric curves—an appearance noticed in many such patients. In the pictures in early life this combination of heterophoria and strabismus is not shown because it did not exist. It had been overcome by strain, if it existed, and the strain had produced its effect.¹ Some of the later photographs do not show the outward and upward turning of the eye, a fact that demonstrates the temporary ability to overcome it by intense effort of “fixation” or concentration of the attention. This turning of the left eye upward and outward is, as oculists know, a result of ametropia and especially of astigmatism and anisometropia. It was a relief of eyestrain, an effect rather than the cause of it—a fact that the “graduated tenotomists,” the cutters and snippers of eye muscles, forget.

A bungling newspaper headline of a review was *The Eye of Genius*—as if geniuses had a peculiar sort of eye defect. The geniuses are few, the slaves of civilization millions. Even Wagner and Carlyle and De Quincey, as poor as they were, could stop near-

¹ Even in the later photographs the ocular defect is not always shown, chiefly, probably, because he was able by intense effort to overcome it and to secure “binocular fixation.” In a letter to Dr. Pusinelli, Wagner says that the constraint and mechanical preparations for being photographed rendered it very difficult to procure a faithful likeness of his “so changeable expression.” Whether “fixing” with both eyes or with but one would make a great difference in the expression. The vertical wrinkles between the eyes are also proof of eyestrain.

range ocular work when they were compelled to do so or limit it to "a little hour" a day. Sewing-women, typewriters, clerks, many students, teachers, all poor handicraftsmen, and women, cannot do so. They must work eight or ten hours every day and all days with the same ocular defects as the "geniuses." The tragedies to them are therefore greater than to the geniuses. There is no greater cruelty, no greater crime against humanity than this of nonrecognition and scorn of eyestrain.

This evidence presented by the portrait painter and the photographer of Wagner would not be needed by the expert oculist to prove the fact of the cause of his lifetime of awful misery. It adds the demonstration needed to convince general physicians and intelligent laymen. Many thousands of such nonmedical persons who have been cured of appalling sufferings like those endured by Wagner would not need such a proof. The mere reading of the list of quotations I have gathered would make them shudder to think of their own past experience. Multitudes of others still await the finger of a divine science upon their eyes. But that touch must first come to the eyes of physicians, too many of them still blind by prejudice and tradition.

Postscript.—A somewhat curious confirmation of the theory of the relationship of Wagner's ocular and digestive symptoms has been sent me by Mr. Ellis since the foregoing essay was published in the *Lancet* of

August 1, 1903. In a letter to F. Heine of April 30, 1853, Wagner writes, *Kurire deinen Bauch um der Augen Willen*—"cure your belly for the sake of your eyes"—but I am not fully certain just what meaning Wagner meant to convey by the words.

FRANCIS PARKMAN.

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CHAPTER V.

FRANCIS PARKMAN.¹

Boyhood. Francis Parkman was born September 16, 1823, in Boston, of the best New England ancestry. Farnham says that the tragic element in his life was probably as much the result of ignorance as of inherited weakness. As to "inherited weakness"—one cannot inherit from ancestors what they have not, and there is not a hint that I have been able to discover which shows that Parkman's parents or grandparents had any of the physical troubles which made him suffer so grievously during his entire life. In his autobiographic letter he says of himself that his childhood was neither healthful nor buoyant, and that for a time though active he was not robust. Farnham says he had a delicate and sensitive physique, and was therefore sent at the age of eight to his grandfather's farm at Medford, Mass. Speaking of himself, Parkman says:

"I walked twice a day to a school of high but undeserved reputation, about a mile distant in the town of Medford. Here I learned very little, and spent the intervals of school-

¹ Published in the *Boston Medical and Surgical Journal*, September 17, 24, and October 1, 1903.

ing more profitably in collecting eggs, insects and reptiles, trapping squirrels and woodchucks, and making persistent though rarely fortunate attempts to kill birds with arrows."

Farnham adds that the woods, indeed, were so seductive as to be responsible for considerable truancy on his part, and some consequent fibbing. Those years at Medford were counted among his happiest, for the manifold interests and activities of country life were very congenial to his tastes.

"The causes of his early illnesses are enveloped in more or less mystery," says Farnham. "He was a headachy boy," Miss Parkman thinks,¹ and this illuminative remark, incidentally made, when coupled with the entire subsequent history of Parkman's life, hints at the key which unlocks the doors of the mystery. Boys of good stock and habits do not have headache except for good and sufficient reasons. When they live in the country and play truant, etc., as this boy did, the truancy is likely to be due to the unconscious desire to avoid headache. In such cases, as good oculists well know, the headache is most likely due to eyestrain. Reading thus between the lines, the oculist

¹ Personal communication. From the age of twelve (he being then twenty-one) his sister was his almost constant assistant and companion. (Since this was printed, Miss Parkman tells me, there is some doubt in her mind or that of her sister, as to the fact of headache in boyhood. It is not of importance. Boys with eyestrain usually avoid headache by avoiding reading and writing.)

who remembers a large number of cases in his private practice of similar development in boys will also be struck by the likeness of essential psychologic conditions in the boyhood of De Quincey and of Darwin. The erudite boy De Quincey was driven by the unconscious discomfort felt in study to years of vagrancy in the Welsh hills and elsewhere, and the intellectual son of intellectual parents, Darwin, made his father despair by his addiction to "shooting, dogs, and rat catching." These and numerous instances in my practice have led me to formulate a rule as to the "truancy" and "play" and "athletics" of boys naturally intellectual, but who show a strangely illogic tendency to avoid all study of a severe or continuous kind. They will not and of course cannot explain it, but they will not read and study, and at once upon the application of spectacles correcting the ametropia which made study result in suffering or unconscious irritability, these "obstinate" and "wild" boys lead their classes and become men of learning or intellectual power.

"At the age of eleven or twelve," writes Parkman of himself, when he was forty-five, "he conceived a vehement liking for pursuits, a devotion to which at that time of life far oftener indicates a bodily defect than a mental superiority. Chemical experiment was his favorite hobby, and he pursued it with a tenacious eagerness which well-guided would have led to an acquaintance with the rudiments of the science, but which in fact served little other purpose than injuring

him by confinement, poisoning him with noxious gases, and occasionally scorching him with some ill-starred explosion." "Baneful to body and mind," he again pronounces this interest in chemistry.

During the years from thirteen to seventeen we infer that he was attending school in Boston at the Chauncy Hall School. We do not hear that he was studious, and all hints show that both before and after this he was far from being so.

The age of fifteen or sixteen produced a revolution. At that momentous period of life retorts and crucibles were forever discarded, and an activity somewhat excessive took the place of voluntary confinement. A new passion seized him, which, but half gratified, still holds its force. He became enamored of the woods, a fancy which soon gained full control over the course of the literary pursuits to which he was also addicted.

The College Student. He entered Harvard College in 1840. His biographer says he devoted himself with ardor to his special interests—the study of rhetoric and history, the pursuit of physical development and a knowledge of the American wilderness. How great, or rather, how little was his ardor for book study, may be gathered from the statement of his friend, Mr. Wheelright, concerning his social and student life at college:

"He was very little in his own room, except at night for the purpose of sleeping. His constant craving for bodily exercise kept him out-of-doors or at the gymnasium the greater part of the day.

"He now began, on entering Harvard, a course of physical training, by which he hoped to acquire the utmost strength, agility and endurance. . . . He took long walks at a pace his companions found it hard to keep up. . . . One of his strongest characteristics, a love of stir and movement, pushed him to excessive activity." (Farnham.)

Parkman says of himself that he formed the plan of devoting himself to history writing at the age of eighteen, and that to prepare himself "he entered upon a training tolerably well fitted to serve his purpose." One at first smiles at finishing this sentence describing this training—"slighted all college studies which could not promote it, and pursued with avidity such as had a bearing upon it, however indirect." Parkman himself continues:

"His reliance, however, was less on books than on such personal experience as should in some sense identify him with his theme. His natural inclinations urged him in the same direction, for his thoughts were always in the forests, whose features, not unmixed with softer images, possessed his waking and sleeping dreams, filling him with vague cravings impossible to satisfy. As fond of hardships as he was vain of enduring them, cherishing a sovereign scorn for every physical weakness or defect, deceived, moreover, by a rapid development of frame and sinews, which flattered him with the belief that discipline sufficiently unsparing would harden him into an athlete, he slighted the precautions of a more reasonable woodcraft, tired old foresters with long marches, stopped neither for heat nor rain, and slept on the earth without a blanket."

During his college course he spent his vacations in long trips to the wilds of New England, in 1841 to

Portsmouth, Lake Winnepesaukee, Mt. Washington, etc., to the Androscoggin and Magalloway rivers. In 1842 a similar trip was made, and in 1843 one to Canada for historical materials, examining battlefields, etc. His physical condition and athletic powers were so well known that it was a surprise to his friends when in his junior year (1843) he gave up his studies and went to Europe "for his health." "Nothing," says Farnham, "very definite is known of the cause of this sudden change. Some think it was a trouble with his eyes, but there is no reference to this in his diaries and the few letters he wrote. It was probably, as others intimate, with apparently better knowledge, a trouble of the heart resulting from overstrain in the gymnasium at Harvard."¹ Parkman sailed in September and—a side light on the rigor of college courses and discipline at that time—he returned in time the next year to be present at the graduation exercises.

As a Law Student. Graduated in 1844 by Harvard he at once entered the Law School, and received the degree of Bachelor of Laws in 1846. He never entered the bar, and judging from the hints given we may suppose his teachers and examiners were as lenient as they had been in the classical department. Of this period Parkman says:

"While following the prescribed courses at a quiet pace, I entered in earnest on two other courses, one of general his-

¹The gymnasium was established in his junior year.

tory, the other of Indian history and ethnology, and at the same time studied diligently the models of English style, which various pursuits were far from excluding the pleasures of society.

"When a student in the law school, he joined a class in riding under the instruction of a circus manager. With his chivalric and spirited temper he must have taken great pleasure in this knightly exercise. He chose the hardest horses, practised riding in every form, with or without a saddle or stirrups; could run, leap, jump on a charger at full speed—in short, perform feats which only a 'professional' could execute. In this study he probably had in view his 'Oregon Trail' trip, which occurred soon after. If our athletic games had then been in vogue, his skill, courage, coolness and activity would have made him a successful competitor." (Farnham.)

"The first trouble of which we have any definite knowledge," says Farnham, "was the beginning of an affection of the eyes." This extremely indefinite "definiteness" is further described as follows: "During his first year at the Law School, 1844-45, he rose very early and studied by candle light, often without a fire. In the course of the next winter, when confined to the house by some sickness, he, for the first time, pursued his studies by listening to reading." The journeys undertaken during his law course are epitomized by Farnham and show the fiery energy that drove him over so much of the country.¹

¹The vacations of the year he devoted to historical research. Taking his rifle he tramped alone over the hills of western Massachusetts, to study the routes followed by the French and Indians in their attacks on that region. He

"*The Oregon Trail*," writes Farnham, "was undertaken partly to cure his eyes, partly to study Indian life." His friend Shaw and himself left St. Louis April 28, 1846, "on a tour of curiosity and amusement," quoting Parkman. In the preface of the book, written in 1872, he says:

passed through Springfield, Cabotville (old name of Chicopee), Chester Factory, Lee, Stockbridge, Great Barrington, Mount Washington, Lebanon Springs, Stephentown, the Hopper and North Adams.

The diary of 1845 shows that he had now focused his ambitions on a definite work—the "Conspiracy of Pontiac." In April of that year he made a trip to St. Louis and spent the summer in collecting materials for this volume. He visited Lancaster, Paradise, Harrisburg, Williamsport, Trout Run, Blossburg, Corning, Seneca Lake, Rochester, Buffalo, Detroit, Windsor, Sandwich, Mackinaw, Sault Ste. Marie, Palmer, Newport, Niagara, Oswego, Syracuse and Onondaga Castle. In all these journeys he showed indefatigable energy and alertness, and while his main interest was historical research, in which pursuit he noted the scenery of historic places, examined family papers and other documents and wherever it was possible interviewed descendants of the actors in his historic drama, his diary reveals almost as much of interest in nature, human nature and civilization. The sketches he contributed to the *Knickerbocker Magazine* show something of these tendencies crystallized in literary forms. In the winter of 1846 he made a trip through Pennsylvania, visiting Trenton, Philadelphia, Washington, Baltimore, Harrisburg, Carlisle, Chambersburg and Pittsburg. This year is marked also by his most adventurous and important expedition, the trip of the "Oregon Trail."

"As regards the motives which sent us to the mountains, our liking for them would have sufficed; but, in my case, another incentive was added. I went in great measure as a student, to prepare for a literary undertaking of which the plan was already formed, but which from the force of inexorable circumstances, is still but half accomplished. It was this that prompted some proceedings on my part, which, without a fixed purpose in view might be charged with youthful rashness. My business was observation, and I was willing to pay dearly for the opportunity of exercising it."

At Fort Laramie he was taken down with dysentery, and says of himself in the "Oregon Trail":

"I had been slightly ill for several weeks, but on the third night after reaching Fort Laramie, a violent pain awoke me, and I found myself attacked by the same disorder that occasioned such heavy losses to the army on the Rio Grande. In a day and a half I was reduced to extreme weakness, so that I could not walk without pain and effort. Having within that time taken six grains of opium without the least beneficial effect,¹ and having no medical adviser, nor any choice of diet, I resolved to throw myself upon Providence for recovery, using without regard to the disorder any portion of strength that might remain to me. So on the 20th of June we set out from Fort Laramie. Though aided by the high bow "mountain saddle" I could scarcely keep my seat on horseback.

Another quotation from the "Oregon Trail" goes into further details of his condition:

"At this time I was so reduced by illness that I could seldom walk without reeling like a drunken man, and when I rose from my seat upon the ground the landscape suddenly

¹ This part of this sentence is oddly omitted in my copy of the "Oregon Trail," preface of 1872.

grew dim before my eyes, the trees and lodges seemed to sway to and fro, and the prairie to rise and fall like the swells of the ocean. . . . I tried repose and a very sparing diet. For a long time, with exemplary patience, I lounged about the camp, or at the utmost staggered over to the Indian village, and walked faint and dizzy among the lodges. It would not do; and I bethought me of starvation. During five days I sustained life on one small biscuit a day. At the end of that time I was weaker than before, but the disorder seemed shaken in its stronghold and very gradually I began to resume a less rigid diet."

He soon recovered and wrote that, "hardship and exposure had thriven with me wonderfully. I had gained both health and strength," and was "in high spirits." He had some relapses at a later date, but soon gained rapidly, ate well and went out hunting for sport, etc.

In his autobiographic letter, written years afterward, he speaks as follows of his life with the Indians:

On a journey of a hundred miles over a country in parts of the roughest, he had gained rather than lost strength, while his horse was knocked up and his companion disconsolate with a painful cough.

The long and exhausting buffalo hunts toward the end of the trip, for the fun of the thing, and the homeward journey down the Arkansas Valley, show how strong and essentially unharmed he really was in health. Of another he wrote, "He was complaining that night of a disease the wasting effects of which upon a younger and stronger man, I myself had proved from severe experience."¹

¹ Approaching St. Louis an incident occurred which must be quoted in full: ". . . Dr. Dobbs is there besides. I asked

I have felt it necessary to quote so fully concerning the "Oregon Trail" trip, because Mr. Farnham, in ignorance of the real pathogenic condition, has in his comments put the matter in a wrong light. He says that "his mind at times lost its clearness." "The prolonged and excessive strain of the journey permanently impaired his digestion, thus reducing his powers to resist the development of disease. In this way the Oregon trip was the immediate cause of his infirmities, though some of them may have had their source in

who Dr. Dobbs might be. 'One of our St. Louis doctors,' replied Tête Rouge. For two days past I had been severely attacked by the same disorder which had so greatly reduced my strength when at the mountains; at this time I was suffering not a little from pain and weakness. Tête Rouge in answer to my inquiries, declared that Dr. Dobbs was a physician of the first standing. Without at all believing him, I resolved to consult this eminent practitioner. He offered in his own person but indifferent evidence of his skill, for it was five months since I had seen so cadaverous a face. . . . I said I had come to ask professional advice.

"Your system, sir, is in a disordered state," said he, solemnly, after a short examination.

"I inquired what might be the particular species of disorder.

"Evidently a disordered state of the liver," replied the medical man; 'I will give you a prescription.' . . . He presented me with a folded paper. 'What is it?' said I. 'Calomel,' said the doctor.

"Under the circumstances I would have taken almost anything. There was not enough to do me much harm and it might possibly do good; so at camp that night I took the poison instead of supper."

heredity." Farnham indeed suggests that his lifelong insomnia was due to this journey, and that "inflammation and weakness of the eyes naturally increased with the decline of his general health on the Oregon trip." Finally Farnham says that the "Oregon Trail" trip thus cost Parkman his health for life.

Farnham here repeats the same error as was exposed in a previous study of Darwin, concerning the effects of the *Beagle* voyage. As Darwin returned from the voyage unharmed, sound and healthy, so Parkman came home from the Oregon trip, essentially without any permanent injury. His subsequent ill-health had nothing whatever to do with the hardships and temporary intestinal troubles of the outing among the Indians. "The sport," says Parkman, "was good, and the faith undoubting that to tame the devil, it is best to take him by the horns." The cause of all his succeeding illness (except of course the arthritis and rheumatism that came on later) was not suspected by himself or his biographer. This was eyestrain, which played no part during his Oregon journey, but which began its dominating influence at once upon his return to civilization, and made every day of his after life the supreme concern, and every hour one of hidden suffering.

To the alert-minded reader it will have become apparent that the school truancy, the interest in chemistry, the woods roaming, the furious athleticism, the

trip to Europe, the early choice of the peculiar historic subjects upon which to write—all were proofs only of a strange though unrecognized suffering when he wrote or read. The Oregon journey, itself preceded by the thousand-mile tramps and wanderings, were upon any other supposition, strangely illogical. Parkman bravely convinced himself they were necessary to his preparation as a historical writer. But what a pitiable means to the end! It is plain that it was all but a powerful and subtle reaction against the ocular and cerebral injury wrought by the impossibility of visual labor with pen and type. There is, indeed, a large and hidden wisdom of the organism, a fused fore-feeling and unconscious determination of the psychic and biologic personality which steadily and determinedly does the best it can with the condition at hand, the inherited tastes and abilities and the forelying circumstance or necessity of life. The youth and the entire life of Parkman, willed and potent as he was, is an illustration of how little the most dictatorial "environment" could conquer or long influence the more dominating temper of his character. Fate made him a true Yankee, and demanded his employment with intellectual and even with literary matters. It also gave him eyes that in any other man in the world would have rendered his living resultless to the world, and every hour a torture to himself. The torture he knew not how to escape, but he wrung from the bit-

terest suffering and the most unpitying fate great results for the world.

In spite of the fact that during his early years he was a wood-roamer, and even made commendable natural history collections, he was no scientist, and however ardently and arduously he prosecuted tree lore or animal study, or later chemistry, and still later horticulture, it is perfectly evident that his title role was not as scientist. He was cast by God for another part, and his soul's eye was set upon another ideal. He filled the small roles as well as he could, but why he played them at all, and why he soon wearied of them, is explained only by the fact that injury to eyes and the nervous system was unconsciously felt whenever he used his eyes in protracted reading and study. Hence he was driven to muscular activity, and being an intellectual man he could but choose the sole outlets for energy which united action and thought. The restless demon, that from the depths of great men's souls ever cries out, *March, march!* begins his orders even in boyhood. In Parkman's case it was a very literal command, iron and uncompassionate. The order had been obeyed from early boyhood on, and by eighteen he found that he could "march" and be an intellectual and creative man at the same time, only by taking as his life work the peculiar kind of historical writing which demanded or seemed to demand many extensive journeys and original research not solely

of a bookish kind. This decision and the theme of his work were of course consonant with the character of the man, but had it not been for his unrecognized although active ocular affliction, the peculiar choice would not have been made. This comes out in Parkman's graphic account of the conditions of his mind and life in which he speaks of the result of his strenuous efforts as culminating in

A state of mental tension, habitual for several years, and abundantly mischievous in many respects. With a mind overstrained and a body overtasked, he was burning the candle at both ends . . . a pernicious intensity . . . a highly irritable organism spurred the writer to excess in a course which with one of different temperament would have produced a free and hardy development of such faculties and forces as he possessed. . . . Soon, however, he became conscious that the impelling force was growing beyond his control. Labor became a passion and rest intolerable, yet with a keen appetite for social enjoyment, in which he found not only a pleasure but in some sense repose, the stimulus rapidly increased. Despite of judgment and of will, his mind turned constantly towards remote objects of pursuit, and strained vehemently to attain them. The condition was that of a rider whose horse runs headlong, the bit between his teeth, or of a locomotive, built of indifferent material, under a head of steam too great for its strength, hissing at a score of crevices, yet rushing on with accelerating speed to the inevitable smash.

There is in these lines, as in everything written by Parkman about himself, a startling clearness of spiritual diagnosis, a truthfulness of view as to the facts and symptoms, and a most tragic failure to catch a

glimpse of the pathologic condition that caused them. How near the eye came to seeing itself is shown by this swift glance:

It was impossible that conditions of the nervous system, abnormal as it had been from infancy, should be without their effects on the mind, and some of these were of a nature highly to exasperate him. Unconscious of their character and origin, and ignorant that with time and confirmed health they would have disappeared, he had no other thought than that of crushing them by force, and accordingly applied himself to the work.

How little they did or could have "disappeared with time and confirmed health" we now know, and as his whole after-life proved, only science makes it possible for the eye to see itself.

Parkman's Rigorous Athleticism. We have seen that Parkman seemed to be impelled to an extreme of athleticism by some illogical and half-unrecognized impulse. Farnham says of Parkman that

"His chief error was the not uncommon mistake of regarding exercise as the all-sufficient means of securing health. While developing his muscles he failed in the larger duty of acquiring a thorough knowledge of the laws of health. His physical culture had as close a connection with his personality as any other part of his education. His tastes and ruling traits pointed in advance to his course and the dangers he would be likely to meet. Early in his life muscular development became his hobby; he desired to equal the Indian in strength, agility, endurance and skill in woodcraft; he also became convinced that a healthy mind could exist only in a healthy body. But in pursuing these laudable aims he was

exposed to many risks. His self-discipline began when he was yet a boy at home; he would not permit himself habits or thoughts tending in the least to weaken the central virtue of manliness. . . . Thus the ways of the prudent, complaining and self-indulgent invalid were to him worthy only of contempt. He himself, going to the other extreme, drove his body to exercise with an excessive and destructive ambition. He treated his infirmities by the fatal method of 'crushing them by force,' attaining almost a savage's endurance of pain. If the strongest mind, bent on attaining health and ignoring illness, were able to cure disease by will power, Parkman should have been the healthiest of men."

Concerning this aspect of his life, Parkman wrote of himself:

"But if a systematic and steady course of physical activity can show no better result, have not the advantages of such a course been overrated? In behalf of manhood and common sense, he would protest against such a conclusion; and if any pale student, glued to his desk here, seek an apology for a way of life whose natural fruit is that pallid and emasculate scholarship of which New England has had too many examples, it will be far better that this sketch had not been written. For the student there is, in its season, no better place than the saddle, and no better companion than the rifle or the oar. A highly irritable organism spurred the writer to excess in a course which, with one of different temperament, would have produced a free and hardy development of such faculties and forces as he possessed. Nor, even in the case in question, was the evil unmixed, since from the same source whence it issued came also the habit of mind and muscular vigor which saved him from a ruin absolute and irremediable."

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In the words "a highly irritable organism spurred to excess," Parkman, with his usual precision, stated the facts without, of course, knowing the reason, or understanding why he had the "highly irritable organism." As an echo of this diagnosis Farnham again caught a glimpse of the truth when he wrote:

"His love of action always pulled against his love of study. Such seemingly incompatible passions are rarely seen together in such force. Even in his college days, while still in good health and much interested in physical culture, he was marked as a man of retirement and industry, a reserved, brooding student, who seldom invited any one to his room, and at the same time an impetuous, social youth. But action was his first instinctive mode of expression, his chief pleasure in life. And it was, moreover, a kind of abnormal, physical necessity, as well as a propensity of his mind."

More accurately and tersely Parkman's friend, Dr. George E. Ellis, saw the truth when he wrote that:

"His maladies intensified his impulses to exertion and mental application, while they limited the hours he could wisely give to reading and writing."

It is strange, as we now look back at the history, that none of his friends, not even the clear head of the patient himself, should have recognized the fact that the reflexes of eyestrain produced the "highly irritable organism" and pushed him to the furious physical activity which served at once to spare his eyes and to act as an outlet for the abnormal irritation engendered by their use. He was accustomed to say,

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PARKMAN'S GRIDIRON.
(From a photograph of the original instrument.)

"I shall go to pieces if I do not exercise," or "I must exercise."¹

On the Gridiron and by Means of the Gridiron.

In 1846 Parkman returned to work, but found that only by the help of eyes other than his own could he do anything toward realizing his literary ideals. He dictated the "Oregon Trail," in the autumn, which was published in the *Knickerbocker Magazine* in 1847, and then took up "Pontiac." Farnham writes:

"He devoted himself largely to medical treatment during 1847 and 1848. He spent the greater part of these years in New York and at West New Brighton on Staten Island, under the care of an oculist, also at a water cure in Brattleboro, Vt., to improve his general health. He returned to his father's house in 1849, having reaped but little benefit from the efforts of the doctors—the 'medical faculty,' as he used to call them. With the help of his friend, Charles Eliot Norton, in reading proof, he was able to prepare 'The Oregon Trail' for publication in book form.

"In 1853 'the enemy' again became too aggressive to be ignored, and again he resorted to water cure at Northampton. He was always willing to give the doctors every facility and to undergo any method of treatment, following faithfully the advice he sought—excepting in regard to giving up writing.

"Meanwhile, with the help of his wife and her sister, Miss Mary Bigelow, as amanuensis, he pushed along his literary labors."

¹ Personal communication by his most kind and capable general physician, Dr. Oliver, who attended him for many years and to whom I am indebted for valuable and accurate information. When he could not walk, breathing and other sedentary exercises, rowing, etc., were devised "to relieve the pressure."

Speaking of himself in his autobiographic letter Parkman says as regards his physical, mental and ocular symptoms, that in a few months after his return to the settlements he "found himself in a condition but ill adapted to support his theory." He continues:

"To the maladies of the prairie succeeded a suite of exhausting disorders, so reducing him that circulation at the extremities ceased, the light of the sun became insupportable and a wild whirl possessed his brain, joined to a universal turmoil of the nervous system which put his philosophy to the sharpest test it had hitherto known. All collapsed, in short, but the tenacious strength of muscles hardened by long activity. This condition was progressive, and did not reach its height—or, to speak more fitly, its depth—until some eighteen months after his return. The prospect before him was by no means attractive, contrasting somewhat pointedly with his boyish fancy of a life of action and a death in battle. Indeed, the change from intense activity to flat stagnation, attended with an utter demolition of air castles, may claim a place not of the meanest in that legion of mental tortures which make the torments of the Inferno seem endurable. The desire was intense to return to the prairie and try a hair of the dog that bit him; but this kill or cure expedient was debarred by the certainty that a few days' exposure to the open sunlight would have destroyed his sight."

The autobiographic letter goes on:

"In the spring of 1848, the condition indicated being then at its worst, the writer resolved to attempt the composition of the 'History of the Conspiracy of Pontiac,' of which the material had been for some time collected and the ground prepared. The difficulty was so near to the impossible that the line of distinction often disappeared, while medical prescience condemned the plan as a short road to dire calamities. His

motive, however, was in part a sanitary one, growing out of a conviction that nothing could be more deadly to his bodily and mental health than the entire absence of a purpose and an object. The difficulties were threefold: an extreme weakness of sight, disabling him even from writing his name except with eyes closed; a condition of the brain prohibiting fixed attention except at occasional and brief intervals; and an exhaustion and total derangement of the nervous system, producing of necessity a mood of mind most unfavorable to effort. To be made with impunity, the attempt must be made with the most watchful caution.

"He caused a wooden frame to be constructed of the size and shape of a sheet of letter paper. Stout wires were fixed horizontally across it, half an inch apart, and a movable back of thick pasteboard fitted behind them. The paper for writing was placed between the pasteboard and the wires, guided by which, and using a black lead crayon, he could write not illegibly with closed eyes.¹

"He was at the time absent from home on Staten Island, where, and in the neighboring city of New York, he had friends who willingly offered their aid. It is needless to say to which half of humanity nearly all these kind assistants belonged. He chose for a beginning that part of the work which offered fewest difficulties and with the subject of which he was most familiar, namely, the siege of Detroit. The books and documents, already partially arranged, were procured from Boston, and read to him at such times as he could listen to them, the length of each reading never, without injury,

¹ This, with the allusion in the second letter is Parkman's only reference to this instrument, and his reticence as regards what seems to me one of the most heroic and pathetic experiences in history is profoundly touching. Miss Parkman has loaned me the "gridiron," and I reproduce here a photograph of it. The original I hope will be preserved in the archives of the Massachusetts Historical Society. A more precious relic will never come into their keeping.

much exceeding half an hour, and periods of several days frequently occurring during which he could not listen at all. Notes were made by him with closed eyes, and afterwards deciphered and read to him till he had mastered them. For the first half year, the rate of composition averaged about six lines a day. The portion of the book thus composed was afterwards partially rewritten.

"His health improved under the process, and the remainder of the volume—in other words, nearly the whole of it—was composed in Boston, while pacing in the twilight of a large garret, the only exercise which the sensitive condition of his sight permitted him in an unclouded day while the sun was above the horizon. It was afterwards written down from dictation by relatives under the same roof, to whom he was also indebted for the preparatory readings. His progress was much less tedious than at the outset, and the history was complete in about two years and a half."

Farnham writes as follows:

"He passed through at least four severe crises of pain and disability within a period of twenty years. The extent of his sufferings is nowhere revealed, only hinted at in writing; he is remembered, however, by an intimate friend or two to have said that death would often have been a welcome end of his trials. Generally he passed acute attacks either in turning his thoughts and conversation to light and jocose topics, or in silent and patient endurance. Once, when his physician, during a bad attack, encouraged him by saying that he had a strong constitution, Parkman replied quaintly, 'I'm afraid I have.' There is nothing to tell of these crises beyond the patience and fortitude with which he endured them. Sometimes, however, he felt so strongly that he had had more than his share of suffering, that a fresh attack would cause him to explode in a few very forcible expressions; then his quiet patience soon regained the mastery."

Parkman has said :

"From a complete and ample experience of both, I can bear witness that no amount of physical pain is so intolerable as the position of being stranded and doomed to lie rotting for year after year. However, I have not yet abandoned any plan which I ever formed, and I have no intention of abandoning any."¹

Driven to Horticulture. With a productive ability limited to about six lines a day, and the use of "the gridiron" to do so much, even Parkman's stout heart was daunted. But he met fate most courageously,

¹ Farnham was doubtless justified in quoting as having a personal significance and application a passage from Parkman's novel :

"It is but a weak punishment to which Milton dooms his ruined angel. Action, enterprise, achievement,—a hell like that is heaven to the cells of Ehrenberg. He should have chained him to a rock and left him alone to the torture of his own thoughts; the unutterable agonies of a mind preying on itself for want of other sustenance. Action! mured in this dungeon, the soul gasps for it as the lungs for air. Action, action, action!—all in all! What is life without it? A marsh, a quagmire, a rotten, stagnant pool. It is its own reward. The chase is all; the prize nothing."

And how personal are his reflections on the prospect of no escape from his misfortunes :

"Yet it is something that I can still find heart to face my doom; that there are still moments when I dare to meet this death-in-life, this slow-consuming horror, face to face, and look into all its hideousness without shrinking. To creep on to my end through years of slow decay, mind and soul famishing in solitude, sapped and worn, eaten and fretted away, by the droppings of lonely thought till I find my rest at last under these cursed stones."

and the manner of doing it again shows plainly the lesson to be found in his previous experiences. That he was not an eager and spontaneous nature-lover is clear from the fact that the woods were left by him unvisited for forty years after that phase of the reaction had passed in his youth.¹ That he cared nothing for chemistry comes out in the fact that he never busied himself with it a minute after the enthusiasm of his boyhood had passed. That travel and journeys among Indians, etc., in search of materials for his histories was not demanded by the historical mind is again manifest that the "Oregon Trail" had exhausted that necessity. All these, his rage for athletics and similar facts, demonstrate that these methods of spending energy served the sole purpose of satisfying the demands of his nervous mechanism for an outlet for derouted energy. They were caught up compromises with the compelling demon, who, denied legitimate and

¹ It is surprising that he should never once have sought the wilderness during forty years after his trip to the Rocky Mountains. His lameness naturally made travel in the woods difficult; yet he often journeyed far to collect historic material. But it is probable that he loved the adventures of a wild life more than the wilderness itself; and therefore neither the woods nor the prairies had of themselves power to attract him after his infirmities denied him perfect freedom in physical activity. Certainly he drove on his literary labors in spite of obstacles, with a persistence, courage and energy that would have enabled him frequently to visit the wilderness had the love of nature been his dominant passion.

logical obedience, forced the boy and the man to a morbid and excessive activity in any way that circumstance pointed. But at every step in life there was the growing impossibility of carrying out the ideal, even by the most abnormal energies or the most pathetic self-renunciation. Only the tragedy of Carlyle's similar life and experience can be compared with that of Parkman, and in exquisite poignancy Parkman's seems the more awful. Just as all previous attempts to meet the ingravescient evil had been morbid methods of disposing of the energy of the reflex ocular neurosis, which was his abiding source of mischief, so now Parkman was compelled to turn his attention to horticulture. From 1851 to 1865 there was published no considerable work; a novel and a book of verses gave glimpses only of the imprisoned soul crying out in the night. His sister tells me that during these years not all preparations for historical work were renounced. Something was always going on, at least in his mind.

His biographer says of him that as to his health he showed a commendable docility when advised by his physicians, but that "in one particular he persistently refused obedience—he would not give up his literary labor wholly, even when the doctors forbade it under threats of the most serious consequences; and when they told him to prepare for death, he straightway prepared to write books." At last, however, driven entirely to the wall, being unable to use his eyes even

to sign his name, he adopted horticulture as an outlet for his energy and to fill the time with some occupation as close to his hand and as interesting as possible.

When able to walk he would go at a rapid gait from place to place, and sit down on a stool carried for the purpose; he would then do some of the lighter work, such as sowing seeds, planting borders, weeding and cultivating. . . . Sometimes the sensitiveness of his eyes prevented him from being out of doors in the sunlight. He acquired great fame as a horticulturist.

There are abundant evidences that he was not profoundly interested in this subject, and all his botanical successes and fame did not keep his mind's eye from the one aim of his life to which he returned so soon as his eyes and health permitted.

Fighting it out with "the Enemy." Parkman was accustomed to anthropomorphize the hidden sources of his physiologic evils as "the enemy" or his "cerebral devil." He had no mind to be defeated in the battle, and least of all to acknowledge defeat. Lamed though he was, his brisk step and alert manner made a French friend call him by the nickname of the *cerf agile*. "He could never abide weakness," says Farnham, "either physical, mental or moral; men, women, opinions, emotions, to command his admiration must show strength and energy." "Even when confined to his wheelchair he would split wood, hoe in the garden, rake or cut grass, etc." "One day in talking over a biographical notice in which a friend had dwelt on the

historian's feebleness, he exclaimed, 'Damn it, I'm not feeble!'

Shortly after the death of his wife he went abroad, and spent the winter of 1858-59 in Paris, at the Hôtel de France et de Bath. His brain was then in such a condition that the most eminent specialists of Paris warned him against insanity and forbade him all literary labor; but while spending his time chiefly in observing the life of the streets from the tops of omnibuses, he yet managed to make some investigations in the archives and to arrange for the copying of documents. Returning to Boston without any improvement in his alarming condition, he joined the family of his mother and sisters.

1868 was a year of exceptional suffering, rendering all work impossible, although he accepted election as overseer of Harvard College. Finding that complete idleness now seemed necessary, and preferring Paris to any other place for such a life, he went abroad for the winter, establishing himself in lodgings at No. 21 Boulevard Saint Michel. Here he was vainly sought after by some of the writers of Paris and the elite of the Faubourg St. Germain. In the course of the winter his health improved sufficiently to enable him to enjoy sight seeing and even make some researches, so that at his return in the spring of 1869 he resumed his labors and saw "La Salle" through the press.

In 1886 he camped a month with me. . . . His lame knee. . . . He could not walk enough to do more than fire a few rounds in camp at a target. . . . His infirmities never allowed him to make the journey a second time.

His maladies compelled him in 1888 to resign his office of Fellow of the Corporation of Harvard after a service of thirteen years.

The close of Parkman's life was both happy and characteristic: his work done, his reputation still in the ascendant, his friends increasing in number and appreciation. He had always hoped to die before reaching the lingering weakness

and decrepitude of old age, for such a soul could not but dread anything that even pointed towards a diminution of power. When a friend once spoke with pride of the work he had done, his energy flamed out with the promise to do still more if he should live. His last summer was a very happy one; comparative freedom from pain and the absence of anxiety as to the completion of his work brought both comfort and peace.

He had phlebitis of the leg in 1892, and then for the first time he was compelled to take to his bed.

On coming in from his last row, on a Sunday, he felt ill and took to his bed. Peritonitis set in, but he rallied so much by Tuesday evening that a successful surgical operation was thought possible. This hope had to be dismissed when he began to sink on Wednesday morning. He died peacefully about noon of that day, on the 8th of November, 1893.

Parkman's Method of Carrying on Literary Work. The following quotations seem necessary to give the student of this case an adequate sense of the difficulties and cost of Parkman's ocular abnormality. They are from the autobiography:

"He then entered upon the subject of 'France in the New World,' a work, or series of works, involving minute and extended investigation. The difficulties which met him at the outset were incalculable. Wholly unable to use his eyes, he had before him the task, irksome at best when there is no natural inclination for it, of tracing out, collecting, indexing, arranging and digesting a great mass of incongruous material scattered on both sides of the Atlantic. Those pursuing historical studies under the disadvantages of impaired sight have not hitherto attempted in person this kind of work during the period of their disability, but have deputed it to skilled and trusty assistants, a most wise course in cases where it is prac-

ticable. The writer, however, partly from the nature of his subject and his plan, though in special instances receiving very valuable aid, was forced in the main to rely on his own research. The language was chiefly French, and the reader was a girl from the public schools, ignorant of any tongue but her own. The effect, though highly amusing to bystanders, was far from being so to the person endeavoring to follow the meaning of this singular jargon. Catalogues, indexes, tables of contents in abundance were, however, read, and correspondence opened with those who could lend aid or information. Good progress had been made in the preliminary surveys, and many books examined and digested on a systematic plan for future reference, when a disaster befell the writer which set his calculations at naught.

"This was an effusion of water on the left knee.

"In the severer periods of the disorder, books were discarded for horticulture, which benign pursuit has proved most salutary in its influences. One year, four years and numerous short intervals, lasting from a day to a month, represent these literary interruptions since the work in hand was begun. Under the most favorable conditions, it was a slow and doubtful navigation, beset with reefs and breakers, demanding a constant lookout and a constant throwing of the lead. Of late years, however, the condition of the sight has so far improved as to permit reading, not exceeding, on the average, five minutes at one time. This modicum of power, though apparently trifling, proved of the greatest service, since, by a cautious management, its application may be extended. By reading for one minute, and then resting for an equal time, this alternate process may generally be continued for about half an hour. Then, after a sufficient interval, it may be repeated, often three or four times in the course of the day. By this means nearly the whole of the volume now offered has been composed. When the conditions were such as to render systematic application possible, a reader has been employed, usually a pupil of the public schools. On one occasion, how-

ever, the services of a young man, highly intelligent, and an excellent linguist, were obtained for a short time. With such assistance every difficulty vanished, but it could not long be continued.

"How far, by a process combining the slowness of the tortoise with the uncertainty of the hare, an undertaking of close and extended research can be advanced, is a question to solve which there is no aid from precedent, since it does not appear that an attempt under similar circumstances has hitherto been made. The writer looks, however, for a fair degree of success.

"In the second letter he said: 'While engaged on these books, I made many journeys in the United States and Canada in search of material, and went four times to Europe with a similar object. The task of exploring archives and collecting documents, to me repulsive at the best, was under the circumstances difficult, and would have been impossible but for the aid of competent assistants working under my direction.'

"In writing his second letter he said: 'Taking the last forty years as a whole, the capacity of literary work which during that time has fallen to my share has, I am confident, been considerably less than a fourth part of what it would have been under normal conditions.'

Farnham adds:

"In looking at the great mass of manuscript he collected and digested, one partially realizes by the material evidence of mere bulk how much he did for the sake of thoroughness, but fully only when one remembers the weakness of eyes and brain that increased his labors tenfold. In the preface to 'A Half Century of Conflict' he thus referred to his collection at the close of his labors:

"'The manuscript material, collected for the preparation of the series now complete, forms about seventy volumes, most of them folios. These have been given by me from time to

time to the Massachusetts Historical Society, in whose library they now are open to the examination of those interested in the subjects of which they treat. The collection was begun forty-five years ago, and its formation has been exceedingly slow, having been retarded by difficulties which seemed insurmountable, and for years were so in fact. Hence the completion of the series has required twice the time that would have sufficed under less unfavorable conditions.'"

While he was in the Law School his sister, Miss Eliza S. Parkman, remembers that he was ill in bed, and that she began at this time reading to him. She does not know of what he ailed at that time. She was his helper in his literary labors for much of the remainder of his life. Whenever he was able to do any such work it was usually as follows: He made his notes, if able to do so, in the method stated, by writing for a minute or two and then stopping to look at a distance to rest his eyes. He prepared for his dictation by thinking, and usually while lying on his back upon a lounge. He went to his room at nine o'clock in the morning, and if he could dictate for an hour it was considered a good day's work. He could not generally continue so long, a half-hour in the forenoon and less in the afternoon being all he could get through with. He usually held a screen before his eyes while dictating. At first he used no notes while dictating, but later he constantly consulted them. He could only read at best but a few minutes, generally but one or two, and he never did any reading or

writing whatever at night. He habitually avoided looking at any one or at any object steadily. In any sort of literary work, or even while being read to, he would often have to stop with the remark that his head was all "stirred up." A continuous noise tormented him and quiet was always desired. His power to read or write seemed to depend upon his eyes rather than upon his head.

Parkman's Estimate of his own Case. It is evident that the mystery of his own ailment weighed so deeply upon his mind that it gave him the strong incentive needed to break over his natural reserve and disinclination to speak of himself. This mystery, he felt, must some time be solved, and the autobiographic letter was his attempt to hand to some aftercomer a document giving so far as in him lay the facts of his strange disease. It must be remembered that it was written in 1868, just prior to his going abroad for medical advice and historical research. It was sealed and inscribed as "not to be used during my life." These are the opening sentences:

"Allusion was made at the outset to obstacles which have checked the progress of the work, if the name of obstacles can be applied to obstructions at times impassable and of such a nature that even to contend against them would have been little else than an act of self-destruction. The case in question is certainly an exceptional one; but as it has analogies with various other cases, not rare under the stimulus of our social and material influences, a knowledge of it may prove

of use. For this, as for other reasons, the writer judges it expedient to state it in full, though in doing so much personal detail must needs be involved."

In the introductory note he had said :

"It resulted from a desire—natural perhaps, but which may just as well be suppressed—to make known the extreme difficulties which have reduced to very small proportions what might otherwise have been a good measure of achievement. Having once begun it, I went on with it, though convinced that it was wholly unsuited to see the light. Physiologically considered, the case is rather curious. My plan of life from the first was such as would have secured great bodily vigor in nineteen cases out of twenty, and was only defeated in its aim by an inborn irritability of constitution which required gentler treatment than I gave it. If I had my life to live over again, I would follow exactly the same course again, only with less vehemence."

In this recognition of "an inborn irritability of constitution" which defeated his life purpose, Parkman puts his finger—or rather points it to the heart of the mystery. Again the same inerrant perception appears in his words :

"It was impossible that conditions of the nervous system abnormal as his had been from infancy, should be without their effects on the mind, and some of these were of a nature highly to exasperate him. Unconscious of their character and origin, etc.

"Though the seat of derangement may be the nervous system, it does not of necessity follow that the subject is that which, in the common sense of the word, is called 'nervous.' The writer was now and then felicitated on 'having no nerves,' by those who thought themselves maltreated by that

mysterious portion of human organism. This subterranean character of the mischief, early declaring itself at the surface, doubtless increased its intensity while it saved it from being a nuisance to those around."

None to whom was hidden the truth of the cerebral and psychic effects of great eyestrain could more accurately describe the tormenting mystery of his case than Parkman has done in the foregoing citations. By this time in his life he was able to see the folly of his athleticism and especially of the "Oregon Trail" to overcome "the enemy," concerning which he now wrote:

"As to the advantages of this method of dealing with that subtle personage, some question may have arisen in his mind, when, returning after a few months to the settlements, he found himself but ill adapted to support his theory."

In 1851 he was confined for two years by "an effusion of water on the left knee." And Parkman adds:

"The effects of the confinement were as curious as unenviable. All the irritability of the system centered in the head. The most definite of the effects produced was one closely resembling the tension of an iron band, secured around the head and contracting with an extreme force, with the attempt to concentrate the thoughts, listen to reading or at times to engage in conversation. This was, however, endurable in comparison with other forms of attack, which cannot be intelligibly described from want of analogous sensations by which to convey the requisite impressions. The brain was stimulated to a restless activity impelling through it a headlong current of thought, which, however, must be arrested and the irritated organ held in quiescence on a penalty to avert which no degree of exertion was too costly. The whirl, the confusion and strange, undefined torture attending this condition are only to be conceived by one who has felt them. Possibly they

may have analogies in the savage punishment once in use in some of our prisons, where drops of water were made to fall from a height on the shaved head of the offender, soon producing an effect which brought to reason the most contumacious. Sleep, of course, was banished during the periods of attack, and in its place was demanded, for the exclusion of thought, an effort more severe than the writer has ever put forth in any other cause. In a few hours, however, a condition of exhaustion would ensue; and, both patient and disease being spent, the latter fell into a dull lethargic stage far more supportable. Excitement or alarm would probably have proved wholly ruinous."

This account is so incomparably accurate and descriptive of the cerebral effects of severe eyestrain that it may be incorporated in textbooks. Innumerable patients have perhaps less exactly but with the same intent and vehemence, and in similar terms, described their symptoms to their oculists. The "iron band about the head," the vague but intolerable anguish, the "whirl," the "confusion," the "strange, undefined torture," "all the irritability of the system centered in the head"—such are precisely the expressions used by these sufferers. And these symptoms disappear with proper glasses.

The So-called Heart Trouble. In 1844 Parkman referred to "a painful beating of his heart." Farnham says that some thought his sudden journey to Europe in 1844 on account of ill-health was a trouble of the heart resulting from overstrain in the gymnasium at Harvard. Parkman in his diary, in 1844,

speaks of the "cursed injury that brought me to Europe," adding, "as I find no great improvement, I judge it best to see what a French doctor can do for me, instead of running about Spain."

Farnham adds :

"This affection, however, does not seem to have been a persistent trouble; it did not prevent him, even at that time, from walking, climbing mountains and ascending cathedral spires as only a vigorous man can do; and the malady does not figure among the chronic troubles of his after life. There is no subsequent mention in his diaries either of disease or medical treatment."

The matter is of no medical importance except to note that as with several of the other cases studied this patient also had for a time his cardiac worry.

Rheumatism and Lameness. The arthritis of the knee came on in 1851, and for two years he was unable to walk much. In 1852 he had to be carried out of the house when starting on his trip to the water cure establishment in Northampton, Mass. For many years his lameness did not prevent free walking at times nor horseback exercise; he used also to do what digging and other work he could in his garden. Fortunately his arms remained serviceable till very near the close of his life, so that he could generally enjoy some form of exercise with them. Even when confined to his wheelchair he could split wood, hoe in his garden, rake or cut with a sickle the grass along the walks; he even did some carpenter work in making

foot benches or other objects of utility. During much of his later years he was obliged to use canes or crutches and to carry a stool when working in his garden. Disliking eccentricity of all kinds, he was much annoyed at having to walk in the streets in his peculiar manner; yet he would not give up exercise or social intercourse so long as he could enjoy them by any means whatever. The pain and the loss of freedom caused by his lameness led him for a time to consider amputation of the leg; but the relief hoped for was too doubtful to justify the operation. When rheumatism finally came in the shoulders and stopped the last of his out-of-door exercises, he accepted massage, practised deep breathing and such other movements as could be executed in a chair.

Wheelwright says of his lameness in his later years :

"Long years afterward, when crippled by disease and needing two canes to support his step, he might often be seen in the streets of Boston, walking rapidly for a short distance, then suddenly stopping, wheeling around and propping himself against the wall of a house to give a moment's repose to his enfeebled knee. Whatever he did, he must do it with all his might. He could not saunter, he could not creep; he must move rapidly or stand still. On these walks in the country he often carried his rifle, 'Satan.' He also did some rowing on Fresh Pond."

Even when his life work was practically over, when completed presbyopia allowed him to enjoy more reading and an untortured brain, the fates would still not

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relent. There was an exacerbation of the knee trouble, and this, keeping him from exercise, led to an increase of insomnia, etc.¹

During the last years of his life his lameness was so troublesome that he had an elevator in his house which he was able to operate by his own arms, and in this way he went up stairs and down. This intercurrent affection has of course no significance as regards the disease-producing ocular condition, except that it confined him more, and thus increased his tendency to read or write, which at once resulted in a heightening of his cerebral and nervous reflexes.

¹ For illustration of this period I cannot forbear quoting a letter kindly given me by Dr. Oliver. It is as follows:

SARAGOSSA, SPAIN, 14 April, 1887.

My dear Dr. Oliver,—Excuse the pencil scrawl. Persistent sleeplessness and the fatigue of travel on the damned Spanish trains, which go chiefly by night, has made my head too shaky for a pen. Since landing I have slept, when stationary, from two to four hours, with two favorable exceptions of five or six hours each (helped by chloral and bromide). I am sorry not to report more brilliant results. I should hope, however, for better luck were it not that the old lameness in my left knee—the result of water on the knee thirty-six years ago—has mysteriously returned after leaving me tolerably in peace for more than twenty years. The consequence is that I cannot walk above a few moments at a time without pain. Sometimes I can scarcely walk at all. This has lasted eight or nine days, and, though it fluctuates a good deal, it has not yet improved. Hence my plans are upset. As I lose ground here, and as traveling by rail is excessively difficult under the circumstances, I have beguiled Coolidge—who is the most

Parkman's Insanity. The collocation of the words, "Parkman," and "insanity" arouses a scornful smile. Insanity was as impossible to that splendid and sound mental and cerebral mechanism as to any in the world. The best proof is that the awful irritation, insult, injury and strain which it endured did not cause it to swerve from its perfect poise and self-control for a minute. And yet the absurd suspicion was entertained by some, and with the thought Parkman was forced to play. He never seriously believed in the theory,

disinterested of men—into making a straight course for the Mediterranean coast. We hope to find a steamer at Barcelona to carry us to Gibraltar, whence, if things improve with me, we will go together to Grenada, etc. But if the lameness continues, I see no use whatever in remaining on this side of the water. Therefore, unless there is perceptible improvement, I shall probably take a steamer at Gibraltar either directly for New York or indirectly by Southampton.

Yours very truly,

F. PARKMAN.

Postscript:

BARCELONA, 17 April.

Change of plan. No available steamer here for Gibraltar. Lameness rather worse. Mean to start for Paris by day train. When there, if lameness is in a better way than now, I mean to go at once to Schlangenbad. If on the other hand it shows no signs of improvement, I shall take passage for Boston, since living alone at Schlangenbad with no possibility of exercise cannot conduce to health. This cursed lameness is a thing which neither you nor I could foresee and which changes the whole situation.

Yours, F. P.

but he could play with it as only an eminently sane mind can with such things. Like all eyestrain sufferers, like those especially we have studied, Parkman had the greatest need, physically, mentally, and particularly ocularly, of much out-of-door life and exercise. The irritable reflexes from the eyes were always surcharging the battery of his brain, which chronically in a state of overtension needed the physical exercise and the ocular rest. His captivity from lameness must have been grievous to bear, and he sought compensation for it in many ways. There is another reason why his lameness must have greatly embittered his mind, although he alludes to it but once. When the war broke out in 1861, what suffering it must have caused him that he could not join the army! What a general he would have made!

"This virtue (cheerfulness) had exceptional value in his case, because of his *inherited affection* of the brain; and he was fortunate in early coming to the belief that insanity often begins in moods and mental conditions that at the beginning can be avoided." (Farnham.)

Of course we now know that Parkman had no "inherited affection" and no "affection of the brain." The same superfluous insinuation is shown in Farnham's, "The overstrain of his early life was most regrettable in helping to develop some inherited tendency to disorders of the brain and nervous system." There was no more "overstrain of his early life"

than thousands of others have endured unharmed. What overstrain there was had no causal relation with his lifelong suffering. He had no "inherited tendency to disorders," and he had no "disorders of the brain and nervous system." Farnham is correct when he writes of Parkman, "He had an 'inborn irritability of constitution,' as he said, which made 'labor a passion and rest intolerable.' His mysterious affection of the brain seems to have consisted in good part of this spurring force." To have hit the truth so patly and to have missed it so completely is strange when every fact of Parkman's life tragedy was glaringly bound up with ocular function.

Miss Parkman in a personal communication to me says she judges that the symptoms that suggested insanity were pressure upon, in or about the head, his "stirred up head" and the rushing activity of the brain. All these are most common symptoms of eye-strain.

Farnham, in another place, says :

"His most insidious enemy was brain trouble. His physician in Paris, the most noted specialist of his day, had said that he might go insane and that his cure was extremely doubtful. The wisdom of making known this diagnosis to the patient has been questioned; but it perhaps was the only course, in view of the precautions that had to be an important element of his daily life. In his autobiography he speaks of the medical opinions and his danger in the jocose way frequent with him in mentioning even his worst condition. But the inevitable weighed at times upon his

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mind. He occasionally expressed wonder at not going insane with so much nervous exhaustion from insomnia, and he asked one or two intimate literary friends to watch for signs of mental disorder in his writings."

Parkman doubtless enjoyed the fun of setting two friends upon such a quixotic hunt! Of a similar chase by expert sportsmen, Parkman himself wrote:

"One physician, with grave circumlocution, lest the patient should take fright, informed him that he was the victim of an organic disease of the brain which must needs dispatch him to another world within a twelve-month; and he stood amazed at the smile of an auditor who neither cared for the announcement nor believed it. Another, an eminent physiologist of Paris, after an acquaintance of three months, one day told him that, from the nature of the disorder, he had at first supposed that it must, in accordance with precedent, be attended with insanity, and had ever since been studying him to discover under what form the supposed aberration declared itself, adding, with a somewhat humorous look, that his researches had not been rewarded with the smallest success."

Mr. Parkman's home physician, Dr. Oliver, writes me that he thinks it was Brown-Sequard who made the statement that there was danger of insanity, and who told Parkman to go home at once as he would soon be out of his mind. The "danger" was very far from "weighing on Parkman's mind," however puzzled he might be as to the mysterious nature of his malady. Thank heaven the sane mind and heroic character of the man "neither cared for the announcement nor believed it."

Parkman's Insomnia. Farnham has written of the "Oregon Trail" journey:

"Suffering as he did from troubles of digestion, he was unable to sleep during the night; when at dawn he dozed off exhausted, his guide had to call him to depart. Thus began the insomnia that wearied him persistently all the rest of his days. From that time onward, during long periods of time, he would get but two or three hours of sleep out of the twenty-four; he often had less than this, or even none, and when four or five hours of unconsciousness came, he enjoyed an unusual blessing. His confidence in nature made him doubtful of physicians and drugs, and gave him most hope in the natural powers of the body. Insomnia so prolonged and persistent was one of the greatest of his physical trials; it indeed seemed that insanity must at last result from this exhausting and irritating form of suffering."

His sister, Miss Eliza S. Parkman, told me in regard to the insomnia that to sleep none at night was uncommon, to sleep about an hour was common and latterly under his physician's advice, and, by the aid of sulphonal, trional or some other hypnotic, to get from four to five hours of sleep was possible. Oculists are now well aware by the reiterated statements of their patients that almost all severe eyestrain produces insomnia. The irritated and surcharged brain, "stirred up" as Parkman described it, during the day cannot be quieted, and the healing power of rest is denied the very organ that brings healing to the rest of the organism.

Parkman's Eyes. Although the method of Zadig

is the method of symptomatology and diagnosis, neither the numerous physicians he consulted during his life, nor the patient himself, neither his relatives or friends, recognized that he had five symptoms which among others are common in eyestrain. These are, in order of their distinctness, redness of and pain in the eyeballs; photophobia, or sensitiveness to light; blepharitis, or inflammation of the edges of the eyelids; inability to use the eyes "at near range"—reading or writing—and sundry cerebral reflexes, whenever this near use was attempted. The reverse of this order is that of importance, and the fact is suggestive of the dullness of perception and slowness of recognition of the role of eyestrain in medicine and in all modern life.

1. Miss Parkman tells me that her brother did not have what would be called "bloodshot" eyes. In Parkman's nature physical and neural matters never went to the positively fatal extremes. A wise restraint even in the severest disorders prevented the fatal exaggeration. He stopped in time. But he had red and painful eyes. The pain in the eyes was nearly constant.

2. *Photophobia.* In the two pictures of Parkman given in Farnham's biography one will notice that across the coat lapels and shirt front are the lines made by a loop of cord passed about the neck and disappearing beneath the coat. It is striking that few remember his use of these lenses, but this is a common fact, illus-

trated by many historic cases, notably that of the musician Wagner. Farnham does not speak of the fact that Parkman (as told me by his sister) habitually or often wore eyeglasses after middle life, and he also wore colored glasses when the light was strong. The colored lenses were the old-fashioned "goggles," with wire meshes about the glass. The silk cord was not, of course, used with these. He chose northern rooms for his studies, and when traveling; he disliked reflections of light from other houses, walls, etc., and he chose the shaded portions of the room to sit in, or kept the room itself in a twilight condition of illumination. According to Miss Parkman he was more comfortable in cloudy weather. His eyes, while in Switzerland, gave out entirely in sunny days, and he was especially liable to attacks of cerebral irritation ("stirred up head") during such days. At Blois, France, Miss Parkman remembers that in 1871 he could not walk out in the day time at all, and driving in the dark was disliked because it strained his eyes and seemed to hurt him to attempt (as he felt impelled to do) to see objects. He therefore was able to be out of doors only in the twilight. Light or multiple lights arouse accommodative effort, and, as we know, Parkman's accommodation was always strained to its utmost. For this reason he never went to the theater, opera, concerts, lectures, etc. His photophobia also doubled his suffering in another way, as it prevented

the life out of doors, which he needed so much. He was confined, therefore, to a vicious circle—his sensitiveness to light confined him too much, thus intensifying his ocular and brain irritation, and in its turn making light still more harmful to the eyes. Patients with severe eyestrain showing the reflexes to the head and eyes most commonly complain of this dread of light, and in many cases it is a source of bitter suffering and trouble. Parkman himself thought he could not repeat his "Oregon Trail" experience because the sunlight would have blinded him. Glasses correcting his ametropia would have banished his photophobia instantly. A curious fact in this connection is his use of orange-colored paper for writing upon in the last part of his life. I have known three patients with severe eyestrain who chose such paper, and who believed that its use was almost necessary for their comfort in writing.

3. *Blepharitis*. Farnham writes that "his gray penetrating eyes were, in youth, of good size, but in later years they seemed smaller because of chronic inflammation of the lids." Miss Parkman tells me that she often noticed "scales" on the lid edges and that he had "irritable lids." She also says he habitually used some lotion, probably solutions of boric acid and camphor (now constantly ordered by physicians for such lid affections), usually applied at night. I have

learned that he was subject to another result of eyestrain, the lid tumors called "meibomian cysts." Two of these were excised by two of his oculists. Parkman never winced during the operation. Farnham makes an excusable error in supposing the narrowing of the palpebral opening, which he calls smaller eyes, was due to the lid affection. It was, of course, due to the habitual attempt to shut out the painful light by partially closing the lids. In this way the width of the opening of the lids was chronically reduced, and he seemed to have "smaller eyes." All albinos have the same appearance and from the same habit. Although Parkman was not a myope, it may be noted that the word "myopia" is derived from Greek words which mean to close the eyes. The reason that myopes also habitually narrow the lid opening is a different one.

Even in England it is now and at last recognized that blepharitis is usually due to eyestrain, so that whatever palliative measures may be ordered for scaly and ulcerous lid edges, all oculists now tell their patients that the only permanent cure of the condition is properly correcting lenses of the ametropia.

4. *Inability to Use the Eyes at Near Range* is the most glaring symptom of eyestrain. It now seems to us incomprehensible that even in Parkman's early and adult life he, and especially his physicians, should

not have recognized that the cause of this anomalous and tragical fact lay in an abnormalism of the optical functions of the eyes. The vast majority of his friends and of all civilized people could work at sewing, reading, writing, and other hand work, and for many hours a day without resultant symptoms and in complete unconsciousness. Parkman shirked study as a boy, as a student and as a young man, and each year of added life lessened his accommodative power and narrowed his ocular working ability, until finally this was reduced to a minute or two at a time, and in all to a half hour or so a day.¹ Finally came the "gridiron" period, when he could not even write his name without pain, and he had to renounce all near range work whatsoever. With the most sympathetic imagination one cannot realize the awfulness of such a fact to a man of Parkman's tastes and will. Ten years of my own life lost in the same way, and from precisely the same causes, help me to understand the workings of the mind of Parkman under this terrible blow of a

¹ I have a suspicion that in some cases, especially in such intense natures as that of Parkman, there may be some eye-strain even in dictating with eyes closed. The effort to visualize (and that is the usual mechanics of intellect) the images and sentences might arouse both convergence and accommodation of the eyes, and thus during composition and non-walking intellectual activity there would not be entire ocular rest.

mysterious fate. If Parkman had lived at the present time he could have found the relief from his disability and suffering in the same way that thousands have done. "The pity of it!"

5. *Cerebral Reflexes.* In his boyhood Parkman had headaches, and was spoken of as "a headachy child"; but in his adult life, according to his sister, he did not have what was ordinarily called headache, although Farnham speaks of "pains in the head" as continually sapping his force. The most revelatory statement I have been able to get from Miss Parkman is that the expression he used most was that his head was "stirred up," and that this was used by him when he could not work or listen to reading any longer. Miss Parkman understands by this expression what physicians call subjective vertigo and an indescribable confusion. Objects did not whirl or seem unstable, but the patient himself. There was also a rush of vague and uncontrollable sensations. Sometimes these were roused by talking or noises, so that silence was necessary even at meals in order not to bring on irritation. From a study of the few hints I can gather I feel that the morbid reflexes from the eyes kept his brain in a chronic state of hyperesthesia, the centers so surcharged that he was in a constant state of great tension, and a slight excess of irritation at any time was more than could be correlated or drained off physiolog-

ically. It was by his splendid will and by infinite precautions that he could prevent harmful results.¹

From this cause also what is commonly called irritability or temper was never shown. His sister remembers no cross, unkind or petulant expression to have escaped him, however great the provocation. His beautiful mind seemed guarded against such outbreaks by a subtle feeling that it was his own nervous mechanism that was at fault. He never mistook the "wild whirl" in his head as caused by any whirl of the outside world. When it was impossible for him to listen longer to reading, or to conversation, or to apply himself mentally to any work, he seemed to find relief in inventing a string of nonsensical or ridiculous stories *à propos de rien*. Introspective he was not, and as to neurasthenia, hysteria, or melancholy, the words are not to be thought of. Finally it must not be forgotten that the vagueness of the cerebral symptoms is no proof of their unreality or lack of intensity, as shown by the fact that he was supposed to be on the verge of insanity, and that first and last he consulted many physicians about his condition of mind and nerves. There was nothing vague however about

¹ "Influences tending to depress the mind had at all times proved far less injurious than those tending to excite, or even pleasurably exhilarate, and a lively conversation has often been a cause of serious mischief. A cautious vigilance has been necessary from the first, and this cerebral devil has perhaps had his uses as a teacher of philosophy." (Autobiography.)

his terrible and lifelong insomnia, which was certainly a consequence of his eyestrain.

The reactions or responses of each organism under the morbid stimulus or "insult" of eyestrain differ from those in any other case. That every case of disease is individual, impossible to bring into any narrow or exact classification is of course a truism in medicine. The typical case exists only in the textbook. But holding the essential fact in view one easily recognizes a common law that runs through and harmonizes all individual variations and renders clear the unity in all exceptions. All this is illustrated and verified by Parkman's case. In a general way the symptoms in severe cases of eyestrain roughly divide patients into three classes: (1) Those in whom the reflexes are to the eyes themselves, resulting in inflammations, disordered function and local diseases of many varieties. (2) Those to the brain followed by a large variety of kinds of headache, psychic and nervous abnormalism, insomnia, etc. (3) Those to the digestive and nutritional systems, with "biliousness," anorexia, dyspepsia and any of the diseases of denutrition. It goes without saying that these types may be mixed in infinite degrees of complexity and intensity, but as a rule a certain case belongs in one of these three classes.

When the reflex is exclusively to the organs of nutrition, as in Carlyle's case, the mental concomitant is likely to be hypochondriasis, irascibility, etc. In Park-

man's case the morbid reflexes expended themselves upon the eyes and the cerebral centers. Cheerfulness and a noble high-heartedness are noteworthy characteristics of the man, although none ever had better reason for despair and complaint. That neither black bile nor yellow bile tinged Parkman's brain is shown by the following sentence written of himself:

"His dislike of everything morbid—melancholy, misanthropy, depression—amounted to abhorrence, and if he could not be cheerful he went away if he was able; and if not, he held his tongue or turned to merry thoughts."

In many cases of reflex ocular neuroses we can find crises of the resultant symptoms occurring at certain life periods. In Parkman's case these crises are not evident. But one exists with any clearness, that of presbyopia. The others are at best masked. But one can see why they are masked. As in everything else this man was exceptional, logical to the limit. Every day and year was critical. He was of the heroic type, and not measurable by our little rules of thumb, applicable to the weaker and commoner man. Evidently his eye defect was of an exceptional kind, such as a low degree of unsymmetric astigmatism and anisometropia would produce. I say a low degree, because Parkman had sharp distant vision, showing that he could neutralize the abnormalism for distant vision. Most surely he could only do so for a minute or so at

a time for near vision. A man of his iron will and exactness would also never give up the attempt to do so as long as it was humanly possible. I have known hardly any patient so incapable of reading and writing as he, or with a photophobia so intense. His astigmatism was of a kind that his ciliary muscle or his accommodative power could in adult life bear the strain of the attempt to neutralize it at near range for but a minute or two at a time. Even as a boy it produced headaches and truancy, and the crisis of adolescence is represented by the breaking off the college course by the trips to Europe. Using up each minute, every infinitesimal gathering of accommodative power, both ocular and cerebral, by his studies and by the intensity of his nature, crises could not be as marked and differentiated as in less stalwart men and less resistant cases. Hence the steady decrease of reading and writing power went on exactly *pari passu* with the yearly lessening of the power of the ciliary muscle to overcome the lenticular inelasticity. The eyeglasses prescribed or that he picked up could only further mask the critical period that would normally have appeared in early manhood and at the usual presbyopic time of life.

Even with the life of terrible suffering he had lived, and with the resultant injuries to the ocular and cerebral centers, the completion of presbyopia at about sixty brought him, as it does all others, a comparative

ease and happiness and power of using the eyes during the last ten years of life. "During the last few years of his life," says Farnham, "his eyes allowed him to write quite freely for very short periods of time. Thus he was able to write by himself with pencil on orange-colored paper the greater part of his 'Half Century,' and 'Montcalm and Wolf.'" "He was better and a happier man after sixty," said his sister to me. "From the earliest of his married life," adds Farnham, "onward till near the close, the condition of his brain seemed to make it necessary for him to be silent and alone most of the time. But, as years rolled on, the improvement in his health, the easier progress of his labor and the development of his sympathy enabled him at last to meet life with happier moods and habits."

There can be doubt in the mind of the modern ophthalmologist as to the cause of Parkman's eyestrain and hence of all its results. Every symptom enumerated can be entirely and only accounted for on the supposition that he had hyperopic astigmatism, probably unsymmetrical, and with anisometropia. There is every reason for the conviction that he had no organic disease of the eyes. He saw as well at night as other people, and so had not any form of retinitis. He recognized things and people so accurately in the daytime that one may be sure there was no considerable amblyopia or other limitation, or organically-caused

defect of vision. No operation except upon the lids was ever performed upon his eyes.

I had written thus far from all the data that I could gain by reading and correspondence. It now occurred to me that a personal search might win the confirmation of my view which, not needed by oculists to bring conviction as to the true nature of Parkman's disease, would serve to prove the necessary inferences I had drawn, and would also make the fact plainer to general physicians and laymen. I therefore made a journey to Parkman's home, and after an active hunt of the records of oculists, physicians and of opticians I secured precisely the scientific confirmation of my theory desired. I found that Parkman from the first had not failed, at least partially, to recognize—how could he fail to do so?—the importance of his ocular condition. In 1849 he had gone to New York, and for a long time placed himself under the care of an oculist. No good, of course, came of it, and as this specialist is now dead we could not learn much of value from any case records that might still exist. The ophthalmoscope had not yet been invented, and as for astigmatism none had thought of it as having a pathogenic significance.

By the courtesy of an optical firm I found the following filed prescriptions:

(1) One from an excellent oculist dated April 12, 1881, ordering:

For the right eye + Sph. 2 + Cyl. 0.50 ax. 108°.

For the left eye + Sph. 2.75.

(2) From another equally competent specialist in 1883:

R. + Sph. 2.75 D.

L. + Sph. 2.75 D.

(3) From the same oculist, in 1885:

R. + Sph. 3.00 D.

L. + Sph. 3.00 D.

(4) In December, 1890, another equally trustworthy oculist ordered:

R. + Sph. 3.25 D.

L. + Sph. 3.25 D.

In addition he was wearing prior to 1881 from a famous European oculist:

R. + Sph. 2.25 D.

L. + Sph. 2.60 D.

I was greatly aided in my search by the courtesy of several oculists who kindly placed their case records at my disposal.

I may at this point settle the question as to any abnormal or inflammatory disease of the retina. One oculist had kept no case records of Mr. Parkman's case. A second had made no entry as to any retinal condition, and being a capable ophthalmoscopist he would have noted the fact had the funduses of the eyes not been normal. The third positively placed in his notes "Fundus normal." Had this testimony not been found, the ignorant-wise might have said that Parkman must have had some retinal disease that caused the inability to read and the photophobia.

The notebook of one oculist says that the patient had recently consulted a most famous nerve specialist whom he had journeyed to see on account of "pressure and confusion in the head," which symptoms came on with literary overwork or excitement. This man had ordered some bicarbonate of soda and wet packs. Many years before Parkman had tried hydropathy and he would no more of it.

We see, therefore, that one European oculist found some difference in refraction in the two eyes but no astigmatism. An American oculist found a similar difference in the hyperopia of the two eyes, and he alone of all found astigmatism "against the rule." Three other prescriptions by two different oculists were for nonastigmatic lenses, alike in both eyes. A revelatory and explanatory fact was found in the case records of one of the latter oculists. This was that the astigmatic lines of the test card running at about axis 120° (judging from the penciled diagram drawn in the notebook) were chosen by the patient as being the plainest at fifteen feet distance, as seen by the right eye, and those running about 155° or 160° were seen more clearly with the left eye. Why glasses correcting this astigmatism were not ordered I do not know. Why the astigmatic correction ordered for the right eye by the other oculist was put at 180° , and why no correction of astigmatism was ordered for the left eye is also not clear.

I may parenthetically state that one oculist found the acuteness of vision in the right eye with — Cyl. 0.5 D. ax. 90° a little less than normal, and with + Sph. 0.25 that of the left eye was about the same. The oculist who noted that the patient chose the asymmetric astigmatic lines found the "media good," and that without any correcting lenses the visual acuteness was with the right eye 12/20, and with the left less, that is, a little more than one-half that of normal eyes.¹ If any deduction is justified by this it is only that there was a decided lessening of the 20/20? visual acuteness from 1881 to 1889, when it was mentioned as only 12/20 or less. As the "media were good" at the latter date no cataract was present. Retinal sensibility was doubtless dulled by the life of abnormal function. Confirmatory of this is the fact that Parkman used a crossed cylinder hand lens during the last years of his life, besides his spectacles, to magnify the size of printed letters.

Incidentally we may understand how it was that Parkman did not get all the relief from completed presbyopia that others do. It was because, with his intense will and powerful innervation, presbyopia was probably never quite complete, and some ability to overcome his hyperopia and astigmatism would remain

¹ He also notes—what was to be expected, that there was no hyperphoria and, as measured by vertical prism diplopia, no considerable exophoria or esophoria.

farther into old age than with others. The same fact also suggests that his astigmatism and hyperopia were always masked, and consequently underestimated without mydriasis, by the patient's exceptional ability to conceal it by his accommodation. Hence, in part, at least, the differences among oculists in estimating the ametropia and in discovering the very existence of astigmatism. It should also be noted that with an organization both mental and neurologic, dominated as it were by a passion for exactness, the comparatively low astigmatism and anisometropia that could be neutralized for only a minute or two at a time would be exceptionally tormenting, its conquering never renounced, nor ever for more than an instant overcome.

From comparison of all the data the demonstration is therefore perfect that:

1. Parkman had unsymmetric astigmatism.
2. There was a certain difference in the hyperopia (that is, anisometropia) of the two eyes.
3. There was a probable difference in the amount of astigmatism of the two eyes. Most important is the fact that it was unsymmetric.
4. This unsymmetric astigmatism and anisometropia was not corrected by any of the glasses that were ordered for him.¹

These ametropic defects were of such a low degree

¹ Two of the sets of lenses I have before me as I write, and the fact is proved true by "neutralization."

that prior to completed presbyopia they did not prevent fairly accurate distant visual acuteness, the power of accommodation being sufficiently great to neutralize them for this purpose.

6. But they were so high that even with Parkman's marvellous vigor of will and innervation they could not be overcome for but a minute or two, or at best five, at near range (that is, in reading and writing), and during many years, not even for a minute.

7. The effort of overcoming the unsymmetric astigmatism and anisometropia was so great and so expensive of nerve force that it resulted in the ocular and cerebral symptoms enumerated.: The almost unexampled severity of these symptoms was exceptional, because of the heroic resolution of the man and his indomitable perseverance in his chosen work.

The Professional Lesson. Parkman had the best professional advice that the medical science of his time could offer. He consulted the best physicians of Europe and of America, but all, in fact, in vain. During the last fifteen years of his life, after Dr. S. Weir Mitchell and other Philadelphia physicians, about 1875, had demonstrated the relief of reflex ocular diseases by means of the correction of astigmatism, Park-

¹ People who cannot hold their arm horizontal for five minutes think it is exaggeration when a worse muscular and nerve strain can not be endured by steady innervation of the ciliary muscle for ten or fifteen hours a day!

man might have, and should have found at least some relief, and at least might have learned the solution of the terrible mystery of his life which had made tragedy of its every day. Prior to 1868 he had written as follows of his experiences with our profession:

"Meanwhile the faculty of medicine were not idle, displaying that exuberance of resource for which that remarkable profession is justly famed. The wisest indeed did nothing, commending his patient to time and faith; but the activity of his brethren made full amends for this masterly inaction. One was for tonics, another for a diet of milk; one counseled galvanism, another hydropathy; one scarred him behind the neck with nitric acid, another drew red-hot irons along his spine with a view of enlivening that organ. Opinion was as divergent as practice. One assured him of recovery in six years; another thought that he would never recover. Another with grave circumlocution, lest the patient should take fright, informed him that he was the victim of an organic disease of the brain which must needs dispatch him to another world within a twelve-month; and he stood amazed at the smile of an auditor who neither cared for the announcement nor believed it. Another, an eminent physiologist of Paris, after an acquaintance of three months one day told him that, from the nature of the disorder, he had at first supposed that it must, in accordance with precedent, be attended with insanity, and had ever since been studying him to discover under what form the supposed aberration declared itself, adding with a somewhat humorous look that his researches had not been rewarded with the smallest success."

Farnham also says:

"His general troubles were believed by the doctor to 'come from an abnormal state or partial paralysis of certain arteries of the brain.'"

The last statement, while we smile, may afford a little instruction, because it is so characteristic of some puzzled practitioners when in the presence of a baffling mystery to fly to a word or term, or a far more mystifying explanation, and call that diagnosis.

The query remains as to Parkman's quizzical but no less terrible arraignment of us. There can be no more loyal member of the medical profession than I, none who believes more thoroughly that it is motived upon an earnestness and unselfishness of purpose unequalled in any so large body of men, none who is more deeply convinced that the brethren of his guild are doing more for civilization and the world's regeneration than any other; and yet, in the face of the long delay before the pathologic significance of ametropia was discovered, before the still more criminal silence and neglect and even opposition to that truth by so many physicians since the discovery was made—the philosophic observer gets a decided shock. This is all the more startling when we learn that many of the leaders of the profession were consulted by Parkman, and since 1875, with no word of the explanation they should have known and of the cure they might have given. Many of them did not even keep any records or notes of the symptoms, diagnosis and treatment in his case. And yet more close comes the lesson when it is observed that despite the existence of hundreds of oculists at present capable of diagnosing and curing such dis-

eases there are today in America at least a million such sufferers unrelieved, and in Europe many millions. In the presence of those who sneer at "exaggeration" and who kill by silence, before such wilful, not to say selfish ignoring, knowing the tons of "headache powders" sold by quack drug stores and even prescribed by medical men, viewing the vogue of the permitted and even encouraged "eyes-examined free" criminal optician—pondering upon the dignity of the "leading practitioner" and the "ophthalmic surgeon," who cannot bring himself to become "a spectacle peddler"—one is constrained to echo Parkman's splendid indignation as to the pompous historical writer who is more concerned about himself and his profession than about prosaic truth. Once when upbraided for some accurate but "undignified" truth he broke out with, "Damn the dignity of history! Straws are often the best materials." The same splendid spirit should motive us. Let us cure our patients!

The following is the second autobiographic letter, now preserved by the Massachusetts Historical Society, and copied by the kindness of Miss Parkman. As it has never been printed I reproduce it herewith, because it presents Parkman's own view somewhat differently from the first letter, and as seen from a later time in life.

"*My dear Brimmer*,—I once told you that I should give you some account of the circumstances under which my books were written. Here it is, with some preliminary pages to explain the rest. I am sorry there is so much of it:

"Causes antedating my birth gave me constitutional liabilities to which I largely ascribe the mischief that ensued. As a child I was sensitive and restless, rarely ill, but never robust. At eight years I was sent to a farm belonging to my maternal grandfather on the outskirts of the extensive tract of wild and rough woodland now called Middlesex Fells. I walked twice a day to a school of high but undeserved reputation about a mile distant, in the town of Medford. Here I learned very little and spent the intervals of schooling more profitably in collecting eggs, insects and reptiles, trapping squirrels and wood-chucks, and making persistent though rarely fortunate attempts to kill birds with arrows. After four years of this rustication I was brought back to Boston, when I was unhappily seized with a mania for experiments in chemistry involving a lonely, confined, unwholesome sort of life, baneful to body and mind. This lasted till the critical age of fifteen, when a complete change came over me—I renounced crucibles and retorts and took to books; read poetry and fancied for a while that I could write it; conceived literary ambitions, and, at the same time, began to despise a literary life and to become enamored of the backwoods. This new passion—which proved permanent—was no doubt traceable in part to fond recollections of the Middlesex Fells, as well as to one or two journeys which I was permitted to make into some of the wilder parts of New England. It soon got full possession of me, and mixed itself with all my literary aspirations. In this state of mind I went to college, where I divided my time about equally between books and active exercises, of which last I grew inordinately fond, and in which I was ambitious beyond measure to excel.

"My favorite backwoods were always in my thoughts. At first I tried to persuade myself that I could woo this new

mistress in verse; then I came down to fiction, and at last reached the sage though not flattering conclusion that if I wanted to build in her honor any monument that would stand, I must found on solid fact. Before the end of the sophomore year my various schemes had crystallized into a plan of writing the story of what was thus known as the 'Old French War;' that is, the war that ended in the conquest of Canada; for here, as it seemed to me, the forest drama was more stirring and the forest stage more thronged with appropriate actors than in any other passage of our history. It was not till some years later that I enlarged the plan to include the whole course of the American conflict between France and England; or, in other words, the history of the American forest; for this was the light in which I regarded it. My theme fascinated me and I was haunted with wilderness images day and night.

"From this time forward, two ideas possessed me. One was to paint the forest and its tenants in true and vivid colors; the other was to realize a certain ideal of manhood, a little medieval but nevertheless good. Feeling that I fell far short of it, I proceeded in extreme dissatisfaction to apply heroic remedies. I held the creed that the more hard knocks a man gets, whether in mind or body, the better for him, provided always that he takes them without flinching; and as the means of forcing myself up to the required standard, I put my faith in persistent violence which I thought energy. I held that the true aim of life was not happiness but achievement; had profound respect for physical strength and hardihood when joined with corresponding qualities of character; took pleasure in any moderate hardship, scorned invalidism of all kinds, and was full of the notion, common enough with boys of a certain sort, that the body will always harden and toughen with exercise and exposure. I remember to have had a special aversion for the Rev. Dr. Channing, not for his heresies, but for his meager proportions, sedentary habits, environment of close air and female parishioners, and his preachments of the

superiority of mind over matter; for, while I had no disposition to gainsay his proposition in the abstract, it was a cardinal point with me that while the mind remains a habitant of earth, it cannot dispense with a sound material basis, and that to neglect and decry the corporeal part in the imagined interest of the spiritual is proof of a nature either emasculate or fanatical. For my own part, instead of neglecting, I fell to lashing and spurring it into vigor and prosperity.

"Meanwhile I diligently pursued my literary scheme. While not exaggerating the importance of my subject, I felt that it had a peculiar life of its own of which I caught tantalizing glimpses, to me irresistibly attractive. I felt far from sure that I was equal to the task of rekindling it, calling out of the dust the soul and body of it and making it a breathing reality. I was like some smitten youth plagued with harrowing doubts as to whether he can win the mistress of his fancy. I tried to gauge my own faculties and was displeased with the result. Nevertheless I resolved that if my steed was not a thoroughbred I would at least get his best paces out of him, and I set myself to a strenuous course of training for the end in view. A prime condition of success was an unwearyed delving into dusty books and papers, a kind of work which I detested; and I came to the agreeable yet correct conclusion that the time for this drudgery was not come; that my present business was, so to speak, to impregnate myself with my theme, fill my mind with impressions from real life, range the woods, mix with Indians and frontiersmen, visit the scenes of the events I meant to describe, and so bring myself as near as might be to the times with which I was to deal. Accordingly I spent all my summer vacations in the woods or in Canada, at the same time reading such books as I thought suited, in a general way, to help me towards my object. I pursued these lucubrations with a pernicious intensity, keeping my plans and purposes to myself, while passing among my companions as an outspoken fellow.

"The danger into which I was drifting rose from the ex-

cessive stimulus applied to nerves which had too much stimulus of their own. I was not, however, at all nervous in the sense in which that term is commonly understood, and I regarded nervous people with more pity than esteem. The mischief was working underground. If it had come to the surface the effects would probably have been less injurious. I flattered myself I was living wisely because I avoided the more usual excesses, but I fell into others quite as baneful, riding my hobbies with unintermitting vehemence and carrying bodily exercise to a point where it fatigues instead of strengthening. In short, I burned the candle at both ends.

"The first hint that my method of life was not to prove a success occurred in my junior year, in the shape of a serious disturbance in the action of the heart, of which the immediate cause was too violent exercise in the gymnasium. I was thereupon ordered to Europe, where I spent the greater part of a year, never losing sight of my plans and learning much that helped to forward them. Returning in time to graduate with my class, I was confronted with the inevitable question, What next? The strong wish of my father that I should adopt one of the so-called regular professions, determined me to enter the Harvard Law School.

"Here, while following the prescribed courses at a quiet pace, I entered in earnest on two other courses, one of general history, the other of Indian history and ethnology, and at the same time studied diligently the models of English style; which various pursuits were far from excluding the pleasures of society. In the way of preparation and preliminary to my principal undertaking, I now resolved to write the history of the Indian War under Pontiac, as offering peculiar opportunities for exhibiting forest life and Indian character; and to this end I began to collect materials by travel and correspondence. The labor was not slight, for the documents were widely scattered on both sides of the Atlantic; but at the beginning of 1846 the collection was nearly complete.

"I had been conscious for some time of an overstimulated condition of the brain. While constantly reminding myself that the task before me was a long one, that haste was folly and that the slow way was the surer and better one, I felt myself spurred forward irresistibly. It was like a rider whose horse has got the bit between his teeth, and who, while seeing his danger, cannot stop. As the mischief gave no outward sign nobody was aware of it but myself. At last, however, a weakness of the eyes, which was one of its symptoms, increased so fast that I was forced to work with the eyes of others. I now resolved to execute a scheme which I had long meditated. This was to visit the wild tribes of the far West, and live among them for a time, as a necessary part of training for my work. I hoped by exchanging books and documents for horse and rifle to gain three objects at once—health, use of sight and personal knowledge of savage life. The attempt did not prosper. I was attacked on the plains by a wasting and dangerous disorder, which had not ceased when I returned to the frontier five months later. In the interval I was for some weeks encamped with a roving band of Sioux at the Rocky Mountains, with one rough though not unfaithful attendant. It would have been suicidal to accept the part of an invalid, and I was sometimes all day in the saddle, when in civilized life complete rest would have been thought indispensable. I lived like my red companions, and sometimes joined them in their hunting, with the fatiguing necessity of being always armed and on the watch. To one often giddy with the exhaustion of disease, the strain on the system was great. After going back to civilization the malady gradually subsided after setting in action a train of other disorders which continued its work. In a year or more I was brought to a state of nervous prostration that debarred all mental effort, and was attended with a weakness of sight that for a time threatened blindness. Before reaching this pass I wrote the 'Oregon Trail' by dictation. Complete repose, to me the most detestable of prescriptions, was enjoined upon me, and

from intense activity I found myself doomed to helpless inaction. Such chance of success as was left lay in time, patience and a studied tranquility of spirit; and I felt, with extreme disgust, that there was nothing for it but to renounce past maxims and habits and embrace others precisely the opposite. An impulse seized me to return to the Rocky Mountains, try a hair of the dog that bit me, and settle squarely the question to be or not to be. It was the time of the Mexican War, and I well remember with what envious bitterness I looked at a colored print in a shop window, representing officers and men carrying a field battery into action at the battle of Buena Vista. I believe that I would willingly have borne any amount of bodily pain, provided only I could have bought with it the power of action.

"After awhile—as anything was better than idleness—I resolved on cautiously attempting to make use of the documents already collected for the 'Conspiracy of Pontiac.' They were read to me by friends and relatives at times when the brain was least rebellious, and I wrote without use of sight by means of a sort of literary gridiron, or frame of parallel wires, laid on the page to guide the hand. For some months the average rate of progress did not exceed three or four lines a day, and the chapters thus composed were afterwards rewritten. If, as I was told, brain work was poison, the dose was homeopathic and the effect was good, for within a year I could generally work, with the eyes of others, two hours or more a day, and in about three years the book was finished.

"I then began to gather materials for the earlier volumes of the series of France and England in North America, though, as I was prevented from travelling by an extreme sensitiveness of the retina which made sunlight insupportable, the task of collection seemed hopeless. I began, however, an extensive correspondence, and was flattering myself that I might succeed at last when I was attacked with an effusion of water on the knee which subsided in two or three

months, then returned, kept me a prisoner for two years, and deprived me of necessary exercise for several years more. The consequence was that the devil which had been partially exorcised returned triumphant. The evil now centered in the head, producing cerebral symptoms of such a nature that, in 1853, the physician who attended me at the time, after cautious circumlocution, said in a low and solemn voice that his duty required him to warn me that death would probably follow within six months, and stood amazed at the smile of incredulity with which the announcement was received. I had known my enemy longer than he, and learned that its mission was not death but only torment. Five years later another physician—an eminent physiologist of Paris, where I then was—tried during the whole winter to discover the particular manifestations of the insanity which he was convinced must needs attend the symptoms he had observed, and told me at last what he had been about. 'What conclusion have you reached?' I asked. 'That I never knew a saner man in my life.' 'But,' said I, 'what is the chance that this brain of mine will ever get into working order again?' He shook his head and replied, 'It is not impossible'—with which I was forced to content myself.

"Between 1852 and 1860 this cerebral rebellion passed through great and seemingly capricious fluctuations. It had its ebbs and floods. Slight and sometimes imperceptible causes would produce an access which sometimes lasted with little respite for months. When it was in its milder moods I used the opportunity to collect material and prepare ground for future work, should work ever become practicable. When it was at its worst the condition was not enviable. I could neither listen to reading nor engage in conversation, even of the lightest. Sleep was difficult and was often banished entirely for one or two nights, during which the brain was apt to be in a state of abnormal activity, which had to be repressed at any cost, since thought produced the intensest torture. The effort required to keep the irritated organ quiet was so

fatiguing that I occasionally rose and spent hours in the open air, where I found distraction and relief in watching the policemen and the tramps on the malls of Boston Common, at the risk of passing for a tramp myself. Towards the end of the night this cerebral excitation would seem to tire itself out, and gave place to a condition of weight and oppression much easier to bear.

"Having been inclined to look with slight esteem on invalidism, the plight in which I found myself was mortifying; but I may fairly say that I never called on others to bear the burden of it, and always kept up a show of equanimity and good humor. The worst strain on these was when the Civil War broke out and I was doomed to sit an idle looker on.

"After it became clear that literary work must be indefinitely suspended, I found a substitute in horticulture; and am confident that I owe it in good measure to the kindly influence of that gracious pursuit that the demon in the brain was gradually soothed into comparative quiet. In 1861 I was able, with frequent interruptions, to take up my work again. At the same time there was such amendment as regards sight that I could bear the sunlight without blinking and read for several minutes at once without stopping to rest the eyes, though my chief dependence was still in those of others. In 1865 'The Pioneers' was finished, and the capacity of work both of brain and eye had much increased. 'The Jesuits' was finished in 1867; 'The Discovery of the Great West,' in 1869; 'The Old Régime,' in 1874; and 'Frontenac,' in 1877. 'Montcalm and Wolfe,' which involved more labor, was not ready till 1884.

"While engaged on these books I made many journeys in the United States and Canada in search of material, and went four times to Europe with a similar object. The task of exploring archives and collecting documents, to me repulsive at the best, was, under the circumstances, difficult, and would

have been impossible but for the aid of competent assistants working under my direction.

"Taking the last forty years as a whole, the capacity of literary work which during that time has fallen to my share has, I am confident, been considerably less than a fourth part of what it would have been under normal conditions. Whether the historical series in hand will ever be finished I do not know, but shall finish it if I can.

"Yours faithfully,

"F. PARKMAN."

"JAMAICA PLAIN, 28 Oct., 1886."

JANE WELSH CARLYLE.

CHAPTER VI.

JANE WELSH CARLYLE.¹

JANE WELSH CARLYLE was born 1801.

"She did her best to ruin her health, often reading a great part of the night when a girl of twelve. Three or four years before her marriage her health was permanently broken." (Sir James Crichton-Browne.)

"Your sickness I have striven to make light of. I will not let myself believe that it is more than temporary; and the serious mood you partly owe to it is that in which to me you are far most interesting." (Carlyle, 1824.)

"My Jane, I grieve to say, is yet far enough from well, but I hope much from summer weather and a smart pony in the south. She is not by any means an established valetudinarian, yet she seldom has a day of true health, and has not gained strength entirely since you left her." (Carlyle, 1828.)

"She caught a violent sore throat, which threatened to end with diphtheria, near the close of December, 1830." (Froude.)

"Her poor sick head." (Carlyle, 1831.)

"Headache and two hours of sleep." (Do.)

"Had you actually to faint all the way up? And the disease, how is it?" (Ditto, referring to her ride to Dumfries.)

"Jane is complaining somewhat, but not regularly sick." (Do.)

"She did household work, but it permanently broke down her health." (Froude, 1832.)

Immediately after the return to Craigenputtock (1832), Carlyle writes: "Jane is far heartier now that she has got to work. . . ." She seemed to grow *very greatly* better when

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she set foot on her native heath, . . . far better than in London [although Froude had prophesied very differently]."

"Although indigestion, which interfered with his working, recalled his impatience to himself, he could leave his wife to ill-health and toil, . . . it was plain to every one of her friends, before it was suspected by her husband, that the hard solitary life on the moor was trying severely both her constitution and her nerves." (Froude.)

"Mrs. Carlyle's sad verses."—Froude, of Carlyle's poem, "To a swallow building under our eaves." (1832.)

"—and I read anything that does not exact much attention." (Mrs. C., 1832.)

"Jane is in a weakly state, but I think clearly gathering strength." (C., 1832.)

"Clearly very much improved in health." (Do.)

"Far better than while in London." (Do.)

"Jane has walked very strictly by old Dr. Hamilton's law, without any apparent advantage. Her complaint seems like mine, a kind of seated dyspepsia; no medicine is of avail, only regimen (when once one can find it out), free air, and, if that was possible, cheerfulness of mind." (Carlyle, 1833.)

"Could I give you some agreeable occupation to fill your whole mind, it would do more for you than all the medicines in existence." (Quoted by Mrs. Carlyle as said by Dr. John Carlyle, 1833, concerning herself.)

"Mrs. Carlyle's bodily health never recovered from the strain of those six years. The trial to her mind and to her nervous system was still more severe. A lady brought up in luxury has been educated into physical unfitness for so sharp a discipline." (Froude, 1834.)

"If the occasional tenderness of these lines could have been formed into a habit Mrs. Carlyle might have borne Craigenputtock less impatiently, and as her bodily ailments were chiefly caused by exposure and overwork she would probably have escaped the worst of them, because she would have thought it worth while to take care of herself." (Froude, 1834.)

"Geraldine's mythical jottings." (Carlyle, of Miss Jewsbury's notes after her death.)

"She came (to London) right willingly, and in spite of her ill-health, which did not abate, but the contrary." (Carlyle.)

"Sickness and dispiritment." (Do., 1832.)

"Instantly took to bed with one of her terrible headaches. Such headaches I never witnessed in my life; agony of retching (never anything but phlegm) and of spasmodic writhing that would last from 24 to 60 hours, never the smallest help affordable. Oh, what pain, pain!" (Do., 1832-33.)

"A total wreck of seasickness." (Do., about 1841.)

"She had for constant accompaniment an altogether weak state of health, continually breaking down, into violent fits of headache in best times, and in winter season into cough, etc., in lingering forms of a quite sad and exhausting sort." (Do., about 1842-45.)

"She was generally in quite weak health, too, and was often for long weeks or months miserably ill." (Do., during the London days generally.)

"Such accounts are often repeated by Carlyle. She was oftenest reclining on the sofa. . . . Privately she at that time felt convinced she was dying—dark winter, and such the weight of misery, and utter decay of strength." (Do., during "Frederick.")

"The deeper break down of her own poor health, which from this time as I now see better, continued its advance upon the citadel or nervous system, and intrinsically grew worse and worse." (Do., about 1855-56.)

"Sunk in 'Frederick' in etc., far less exclusively, very far less, than she supposed, poor soul." (Do.)

"Her endless bodily distresses and even torments." (Do.)

"Her right arm strangely lame, getting lamer and lamer, so that at last she could not 'do her hair herself.' . . . 'No sleep,' too often the response." (Do., 1863.)

"'Neuralgic rheumatism,' the doctors called this thing: 'neuralgia,' by itself, as if confessing that they knew not what

to do with it. Some kind of hot half-corrosive ointment was the thing prescribed, which did, for a little while, each time remove the pain mostly, the lameness not, . . . arm all stained with spots of burning. . . . disease and pain for 30 or more years, etc." (Do., about 1863.)

" . . . had a fall on the neuralgic arm—ruined otherwise far worse, for, as afterward appeared, the muscles of the thigh-bone or sinews attaching them had been torn in that spasmodic instant or two; and for three days coming the torment was excessive, while in the right arm there was no neuralgia perceptible during that time, nor any very manifestly new injury afterward, either." (Do.)

" . . . 'getting well' for several weeks still; she could walk very little, . . . out driving, and again out, etc." (Do.)

"Caught some whiff of cold, . . . soon rapidly worse, and developed itself into that frightful universal 'neuralgia,' under which it seemed as if no force of human vitality would be able long to stand. 'Disease of the nerves'—(poisoning of the very channels of sensation); such was the name the doctors gave it; and for the rest, could do nothing with it; well had they only attempted nothing! I used to compute that they, poor souls, had at least reinforced the disease to twice its natural amount, such the pernicious effect of all their 'remedies' and appliances, opiates, etc., which every one of them (and there came many) applied anew, and always with the like result. Oh, what a sea of agony my darling was immersed in, month after month! Sleep had fled. A hideous pain, of which she used to say that 'common, honest pain were it cutting off one's flesh or sawing off one's bones would be a luxury in comparison,' seemed to have begirdled her, at all moments and on every side. Her intellect was as clear as starlight, and continued so; the clearest intellect among us all; but she dreaded, too, that this must give way,—[and she made him promise not to put her into a mad-house, even if she did lose her wits]." (Do.)

" . . . Again I said to myself, 'No man, doctor or other,

knows anything about it. There is still what appetite there was; that I can myself understand.' . . . The aftercast of the doctors' futile opiates were generally the worst phenomena." (Do.)

"The doctors were many. . . . When any new miraculous kind of doctor was recommended as such, my poor struggling martyr, conscious, too, of grasping at mere straws, could not but wish to see him; and he came, did his mischief, and went his way. We had even a trial of 'animal magnetism'; two magnetizers, first a man, then a quack woman . . . at least did no ill. . . . By everybody it had been agreed that a change of scene (as usual when all else had failed) was the thing to be looked to." (Do.)

"We dimly understood . . . that the doctor would accept remuneration; though this proved quite a mistake. The remuneration he had expected was to make a distinguished cure over the heads of so many London rivals." (Do.)

"June 29.—After nine days totally without sleep, she announced to us that she would leave this place tomorrow for London." (Do.)

(Then she went to Annandale, where) "she had slept that first Gill night for almost nine hours." "Improvement continued," . . . "improving pretty constant; fresh air, driving, silence, kindness." (Returning to Chelsea in August Carlyle met) "The old kind face, a little graver, I might have thought, but as quiet, as composed and wise and good as ever." (Do.)

"The last epoch of my darling's life is to be defined as almost happy in comparison! It was still loaded with infirmities, bodily weakness, sleeplessness, continual or almost continual pain, and weary misery so far as body was concerned. . . . It was remarked by everybody that she had never been observed so cheerful and bright of mind as in this last period. . . . wonderful cheerful . . . a bright ray of mirth . . . shining through the wreck of such storms as there had been."

"She was very feeble in the Devonshire time (March, etc., 1865); but I remember her as wonderfully happy. . . . She

made no complaint, went driving through the lanes, etc." (Do., 1865.)

"Better, dear, fairly better since I shifted to Nithsdale." (Mrs. Carlyle, 1866.)

"I find on any sudden alarm there is a sharp twinge comes into my back which is like to cut my breath, and seems to stop the heart almost." (Do.)

"She went out for two days to Mrs. Oliphant at Windsor, recovered her sleep to the poor old average, or nearly so; and by every testimony and by all the evidence I myself have, was not for many years, if ever, in such fine spirits and so hopeful and joyfully serene and victorious frame of mind, till the last moment." (Carlyle, 1866.)

She died in her carriage immediately following an exciting accident to her dog.

"Instead of suffering in health Mrs. Carlyle benefited immensely by the sojourn at Craigenputtock, not as regards her weak chest, for she never had one, but as regards her nervous system. . . . Her only illnesses, at this period, were when she went away from it." (Sir James Crichton-Browne, "New Letters, etc.")

"The alleged drudgery undergone by Mrs. Carlyle at Craigenputtock is as mythical as the injury to her health." (Do.)

"The true key to Mrs. Carlyle's frame of mind at the time of the Ashburton episode is to be found in her state of health. It seems clear that she then passed through a mild, but protracted attack of mental disturbance, which would be technically called on its psychic side climacteric melancholia, and on its physical side neurasthenia. Mrs. Carlyle was hereditarily disposed to nervous disease. Her father . . . died of typhus fever at 43 years of age. . . . Her mother died of an apoplectic seizure, and a maternal uncle was paralyzed. . . . She was a seventh month child, . . . of intensely nervous temperament, . . . a highly neurotic woman." (Do.)

"When still a girl, too, her pathologic tendencies had begun to show themselves, for there are complaints of sickheadaches,

and before her marriage these had got a firm hold on her." (Do.)

"In the spring of 1826 she writes to Carlyle's mother: 'I had been unfitted for working at anything lately but by starts, owing to an almost continual severe pain in the head.' Throughout her married life these sickheadaches continued to recur, often with prostrating severity, generally lasting for three days, sometimes longer. . . . She suffered from many, indeed innumerable, attacks of influenza; Harriet Martineau said she had 'eight influenzas annually'; . . . frequent catarrhs or colds. . . . The influenzas and the colds in Mrs. Carlyle's case may have been due to microorganisms or local conditions in the air passages, but these maladies, as we now know, both depend to some extent on a special predisposition in the sufferer, having its root in the nervous system, and both leave their stamp on that system and gradually undermine it. That the nervous system in Mrs. Carlyle's case was all along unstable and excitable is indicated by her intolerance of noise of all kinds, which was as great as that of her husband, and by her sleeplessness, which was even worse than his." (Do.)

"Within a year of her marriage she is writing to her husband that she was 'demolished' by a sleepless night, and from that time the demon insomnia never ceased to haunt her with more or less persistency. In 1848 she wrote: 'I sleep three hours a night and that in small pieces.'" (Do.)

"When with the sleeplessness one of which she called her 'patent headaches,' was combined she sometimes passed into a state of unconsciousness. In July, 1846, she wrote to her husband: 'I lay the greater part of the day in a sort of trance, neither asleep nor awake.'" (Do.)

"For several years before the date which I would fix as that of the climax of her mental trouble she had been occasionally

¹ Sir James in quoting this omits the significant preceding sentence of Mrs. Carlyle's letter, the reference to making a cap for Mr. Carlyle's mother, and "now, I am by no means the speediest needlewoman in the world."

taking henbane or hyoscyamus to allay pain and excitability and pretty frequently morphia to compel sleep. . . . She was, like her husband, addicted to excessive tea-bibbing and smoked cigarettes." (Do.)

"She was, in short, the very woman in whom the physician would expect a nervous breakdown at a critical epoch of life. The drawback to her writings, it must be allowed, is the sick-room flavor that pervades them and the frequent invocations of castor-oil. They are of scientific interest as presenting an instructive series of studies in neurotics, etc." (Do.)

"It was not until 1846, when she was 45 years of age, that her despondency assumed a morbid complexion. . . . deepened and darkened until 1855, when that excruciating 'Journal' was written. It was all but completely dispelled in 1857, leaving behind it, however, impaired bodily health, and the seeds of serious evils in the nervous system, which afterward sprouted and brought renewed depression of a very different nature from that previously experienced." (Do.)

"Her journal bears unmistakably the stigmata of mental disorder—not insanity in the crude sense of the word, but a derangement of the feelings, with consequent delusional beliefs, having no rational foundation, and irremovable by demonstrative proof of their untenability, all due to a disease of the brain and nervous system, which it is customary to call functional, because of the invisibility of the changes that accompany it and their remediable character." (Do.)

"In these, and many other passages that might be quoted, the alienist will readily recognize the cerebral neurasthenia that is so often accompanied by profound dejection and mad fancies." (Sir James Crichton-Browne.)

"These slighter forms of masked insanity—mental dyspepsias they might be called—such as I maintain Mrs. Carlyle suffered from, . . . ailing, unreasonable and hot-tempered wife, possessed by groundless jealousy." (Do.)

"Much movement under the free sky is needful to keep my heart from throbbing up into my head and maddening it." (Mrs. Carlyle, Journal.)

"So long as I had a noisy bedroom or miscooked food, even, I had something to attribute my sleeplessness to; now I can only attribute it to my diseased nerves." (Mrs. Carlyle, letter to her husband, 1857.)

"For once my mother succeeded in persuading me that I was very bilious, and must be treated accordingly . . . physic, castor, brandy, oleum diaboli, . . . a 'well-physicked Goody.'" (Mrs. Carlyle, 1828.)

"My head was so ill. I had to lie in bed." (Do., 1831.)

"Yesterday I had a headache again." (Do.)

"I must conclude (writing). . . I have a headache today and must not drive it beyond bounds." (Do., 1834.)

"My head was horrible on Monday. . . The third night I had not slept a wink." (Do., 1836.)

[The accounts of "headache," "dyspepsia," "senna," "castor," coughs, sore-throat, ill-health, colds, influenzas, noises, insomnia, etc., constantly repeated, are henceforth omitted, unless having some special significance.]

". . . I should advise it. Much as our good doctor used to do with his senna,—'You had better give it to him—or perhaps you had better *not*.'" (Do., 1838.)

(When in the midst of active bodily work, while overseeing the renovation of the house, papering, and painting, etc., she writes:) "I am in better health, however, and do not dislike London as Mr. C. does." "The work goes well and myself go well. The early rising, and the shower-bathing, and the having something to look after, agree with me wonderfully." (1843)

"The amount of exercise (visiting factories, etc.) of body and mind I have gone through has astonished myself, and proves, I think, clearly enough that I have no 'liver complaint,' whatever other devilries I may have." (Do., 1846.)

"Geraldine has kept to her purpose of not leaving me a single vacant hour up to the last minute, and her treatment, I believe, has been the most judicious that was possible. It has brought back something like color into my face, and something like calm into my heart." (Do.)

"On the other hand, I am sensible that *movement* and *change* (italics Mrs. Carlyle's) are good medicines for me." (Do.)

"Jane has greatly improved in health; . . . a pleasant totally idle rustication, which, in spite of the cold weather, has almost completely restored her." (Carlyle, 1847.) [She had been very ill, "confined to bed for three weeks," before leaving Chelsea for Bay House.]

"I thought *care* had done so little to improve my strength that I would try what *rashness* could do. And *that*, as usually happens for me, answered quite well." (Mrs. Carlyle, 1847.) [Back at Chelsea again, the "liver" began its old worries.]

"The pain in my head and face returned when I was in the act of sealing my letter, . . . continued all day and all night." (Do., 1847.)

"'In every "*inordinate* cup" there is a devil'; so it may easily be that in the apparently laudable '*inordinate* cup' of reading there may be a devil of giddiness." (Do.)

"Writing was for a time dreadfully fatiguing to me." (Do.)

"I feel just now as if nothing less than my *life* depended on incessant movement in the fresh air." (Do., 1849.)

"Yesterday I began a letter, but had to leave off and betake myself into the open air. My head ached and I had a presentiment of the old sickness which nothing seemed to stave off but continued movement. All the time I was under the providence of these blessed Neubergs (Rawdon). I felt perfectly well, though sleeping little. They kept me always driving or walking, and after dark we played at chess." (Do., 1849.)

"I cannot write at any length today, for fear of stirring up my head into *promiscuousness*!"¹

"This is a long letter; and my head is aching, and *that* is stupid. I must go and sit in the garden." (Do.)

"I must go out for a long walk, and get rid, if not of my biliousness, at least of my *blue devils*." (Do.)

¹"Stirred up head" were Parkman's words describing his condition when *he* could write or work no longer.

"Writing makes me 'too fluttery for anything.'" (Do.)

"... I have not swallowed a pill since I left Malvern!!!¹ and I am alive and rather well. But then, my life otherwise is so very wholesome; nice little railway excursions every day, ... visiting these primeval cotton-spinners, etc." (Do., 1851.)

"... your present, and hanging it about my neck. I like it so much! and it suits my eyes capitally. I expected a *pretty* glass, but, etc." (Do., 1853.)

"Without plenty of *walking* I can't sleep a bit—very little with it." (Do., 1856.)

"Went to look at the Marlborough House pictures, but was too tired and sick to do anything but sit *about* on chairs. Came home half dead and lay on the sofa." (Do.)

"Went to see the Chelsea Commission at work on Lord Lucan. ... How sick I have been all this day." (Do., April 20.)

"I feel weaklier every day. ... I put myself in an omnibus, being unable to walk. ... At night I sewed a lace-border, etc.—April 21. Not up to even a ride in an omnibus today." (Do., April 22.)

"Last week I was all for dying; this week all for ball dresses." (Do.)

"Spent the forenoon reading in Battersea Fields. In the evening alone, as usual; a very sick and sad day with me." (Do.)

"I was very poorly indeed when I left home, but I am quite another creature on top of this hill with the sharp Fife breezes about me." (Do.)

"It is seventeen years now since a Dr. Morrah told me I 'should never *live through another winter in England*.' ... I have lived nineteen winters in England, and ten of them I have walked about in the coldest frosts, at the rate of six or ten miles a day!" (Do.)

"Change of air and daily carriage exercise make me sleep better than I had done for months." (Do., 1857.)

¹The Carlyles had spent a month as the guests of Dr. Gully.

"And my friends supply me with nice novels, English and French, which I own a weakness for, and make no conscience of indulging in when I am not up to serious study." (Do., 1858.)

"Miss Baring has invited me to Bay House with leave to wear high dresses and caps." (Do.) [She had been "in the valley of the shadow of Castor," "worse," "nerve, spirits, worn out," etc., at Chelsea, but at Bay House she has been "an improved woman ever since," has a "touch of human color in her face," "gets a fair amount of sleep," "has not been so well for 10 months," etc. This was with "long drives in an open carriage every day," "sails, too, in the Bay," etc.] (Do.)

"I don't think my brain is so active when I *sleep* (as I still continue to do with that *Whiskey!*) as it used to be when I spent the greater part of my nights in reading in bed, to stave off insane thoughts." (Do., at Chelsea, 1859.)

"Three weeks' confinement to bed." (Do.)

"A serious and most ill-timed illness . . . gone for a week almost entirely without sleep, and almost entirely without other nourishment than brandy and water." (Do., 1860.)

". . . had two drives in the carriage every day. . . I did come home (to Chelsea) a different creature from what I went away, and the difference lasted only two or three days, though I did continue the pepsin. Gradually I ceased to eat again, and got sicker and sicker, till I had to take to bed and lie there several days unable to hold up my head for nausea! . . . Mr. Barnes said 'the heat had upset me.' I have not been feeling the heat at all disagreeable; but, of course, doctors know best!" (Do., 1864.)

"I am perfectly astonished at the impunity with which I do and suffer things that used to ruin me for days at St. Leonard's." (Do., 1864.)

"Wet, foggy, and dispiriting. Nevertheless, I have not since my return to London, missed my drive a single day." (Do.)

"When I try writing letters in the evening, it never fails to

give me a restless night, and now Mr. C. won't suffer me to take a pen in my hand. . . . I am not at all nervous, and I certainly sleep better. . . . The *actual* suffering, if cleared of the aggravations of the imagination, would be nothing to make a fuss about." (Do.)

"I suppose I am bilious just now, I feel so bad at writing; so bad at *doing anything*. I would like to lie all day on the sofa, reading novels. . . . I will take a blue-pill tonight." (Do., 1865.)

"I sat up reading till three . . . then I went to bed and lay awake without kicking about much till morning." (Do.)

"I sat up reading till three in the morning! Then I made a bold venture and took, before lying down, 30 drops of morphia! I used to get good of an exceptional dose of this sort. Even that couldn't put me to sleep for a minute." (Do.)

"I go on famously without doctoring even of my own! The wonderful improvement on my sleep has continued, and the cessation of all my pains." (Do.)

"I continue free from neuralgia, though the wet weather we have had is very trying for that sort of illness." (Do.)

"To all inquiries there was but one answer: 'No better, no hope.' Suddenly, as if from the grave, she came back. The illness had seemed preternatural, the recovery equally so. She had been dying. She was apparently well. She was weak, extremely so, but in good spirits." (Froude Posthumous Pamphlet, "My Relations with Carlyle.")

Whether physician or intelligent layman, and especially if oculist, any one who will consecutively and attentively read the preceding extracts concerning Mrs. Carlyle's health needs little help in arriving at a diagnosis. It is unconsciously made for him by the reiterated testimony and compelled inference. Whenever

she used her eyes in sewing, writing, or reading she had sickheadache, insomnia, and indescribable suffering. Whenever for a day she did none of these things, driving or walking or doing other work she was free from physical and mental pain. Her torments began in childhood, grew steadily worse, especially ingravescient during presbyopia, and ceased (the kind she had so long endured) as if ^{by} ~~my~~ magic, and almost in a day when the presbyopic process was complete. There is not a line in all that she, her husband, and the doctors have written that does not prove this etiology, not one that does not confirm it, and scarcely a line that is reconcilable with any other theory. That a physician writing in the twentieth century and conversant with the facts should have failed to recognize the inference, should have made a different diagnosis is—well, “significant of much”—especially to multitudes in the civilized world still enduring the torments of this, one of the most awful of human diseases. There are oculists, sane, scientific, trustworthy men, who by spectacles have within a day cured thousands of patients who have told of the same symptoms as Mrs. Carlyle had. The knowledge of these cures has been repeatedly placed before the profession. How much longer is it to be ignored?

The names “biliousness,” “neurasthenia,” “hysteria,” have been too long used to cover a host of sins of omission and ignorance, and the duty of asking as

to cause has been allowed to slip out of sight by the mystery and the befogging habit of nomenclature. With the best intent in the world the confusion has been increased by Sir James Crichton-Browne, who should have known that the old-fashioned nonsense about "climacteric melancholia" is a generation past date. Every other woman patient of 45 or 50 will still mysteriously ask concerning her recent great increase of nervous and other symptoms, "Doctor, do you think it is my age?" Alert-minded physicians have a ready answer framed upon the knowledge of certain facts:

1. That if "climacteric," why do the troubles not cease with the climax? Why do they go on worsening until 60 or after? (One should not be compelled to suggest that the menopause arrives a number of years earlier.)

2. Why do they occur so often to men during the same years? (It should again be unnecessary to note that the man's "climacteric" is not reached until somewhere about 70, 80, or even 90!)

3. Why are "climacteric" troubles usually and wholly relieved by scientific correction of ametropia and presbyopia?

It is medieval medicine, this superstition that the mere cessation of a function, like menstruation, hair-growth, juvenility, virility, etc., produces pain. It is not modern scientific medicine to ignore the role of the process of presbyopia in human health and disease.

The incomplete process, note well, for when presbyopia is complete, there is always relief of the symptoms caused by the laming. A crippled leg may cause infinite pain, but hardly after amputation.

In passing one may note a word of thanks to Carlyle, the accurate describer of morbid phenomena. Throughout the histories of others, Wagner, Carlyle, Huxley, etc., whether by professional or layman, there is a pitiable vagueness as to sickheadache. There is a nausea anent nausea, a disinclination even to speak of vomiting and retching which makes the biographic clinician wander often about in a sorry twilight of mystery. Biliousness, dyspepsia, liver, indigestion, and many such circumlocutions will puzzle one. But witness Carlyle: "Agony of retching (never anything but phlegm), and of spasmodic writhing, that would last from 24 to 60 hours, never the smallest help affordable. Oh what pain, pain! Such headaches I never witnessed in my life." That is the way a good clinician sees, and the way patients describe.

But is it the way the most modern of scientific books and articles see or describe? Reread the extracts of the preceding pages. The most glaring fact about sickheadache is the agony of retching—a gastric disease—apparently. Apparently! Do the gastrologists and books on the stomach so recognize and treat? Do they, the precisely similar agony of seasickness? Far from it.

If all disease that is called functional is to be sniffed aside as demonstrations of the "unmistakable stigmata of mental disorder," or as due to "the invisibility of the changes that accompany it and their remediable character," there needs a new pathology. Seasickness and sickheadache are surely functional, surely not due to microscopic changes in nerve-structure, surely not really gastric in origin, and just as surely most real.

And the heredity bogey needs a quietus! For instance, one's father died of typhus when he was 43; one's mother of apoplexy, at past 60; a maternal uncle was paralyzed; there was "defective viability" in one's father's family; and one was a seven months' child. Now the "one" who is such a victim of the law of heredity did not die of typhus at 43; did not die of apoplexy at any time; did have some paralytic trouble of the hands; did not have a seven months' child, etc. In other words, one case each of typhus fever in one's ancestry, one of paralysis, one of apoplexy, and twelve of defective viability in collaterals, plus premature delivery, explains the "neurotics" of a woman who suffers from sickheadache! The pseudoscientific Lombroso and all his pseudoscientific echoers with their nonsense about the "stigmata of degeneration," "matroids," etc., should be taught silence by the contemptuous ignoring of the really scientific.

Neither will "neurasthenia" avail even to describe, far less to explain, the disease whose one crying charac-

teristic is excess and unphysiologic innervation instead of lack of nerve force or strength. In almost all so-called "neurasthenia" (lack of neural vitality) there is precisely this surcharge of unruly innervation. Neurasthenic naming of a sthenic condition does not learn its cause or find its cure.

Nor insanity, masked, modified, or uncrude, with delusional or other beliefs, nor mental dyspepsia and groundless jealousy. The suffering of Mrs. Carlyle, the physical and cerebral suffering, was as great as one can endure and live. It was as real as pain can be. It is past the time when ironical smiles, vague names, "stigmata of degeneration," or of the "neurotic," should be allowed to come between the physician and his patient appealing and paying him for science and cure. Least of all, when driven wild by a score or two years of this torture the frenzied mind may feel the danger of losing its equipoise. That Mrs. Carlyle,¹ for instance, never in the least lost her intellectual clearness and essential sanity every line of her letters abundantly shows. What better judge than he who wrote after all her 40 years of agony, "The old kind face, a little graver, but as quiet, as composed, as wise and good as ever; cheerful and bright of mind; a bright

¹ None more impossible to become insane than Parkman, and great "alienists" and nerve specialists told him he was or would be insane. And they said the same of Wagner, and of Schopenhauer.

ray of mirth shining through the wreck of such storms as there had been." Minimizing real suffering, piffing it away, under a sniff of meaningless nomenclature, or waving it back to heredity is a too frequent professional crime. At 56 years of age, when at the very height of her "delusional" sufferings and "masked insanity," this "neurotic" could see through lots of medical shams; for instance:

"That reminds me to ask, Does your Father prescribe *Pepsien* [*sic*] in stomach complaint? Has he ever seen the blessed thing? Ever heard of it? If he haven't, no more shame to him than had he missed to hear of the pretty little French Empress's very latest caprice in dress! This *Pepsien* (I don't know if I spell it right; but as the word is made out of *dyspepsia* without the *dis*, I can't be very far wrong) is just the latest caprice in Medicine; that's all! It is something scraped, etc. . . . The Doctors here are prescribing it at no allowance; and the druggists say they can't get enough for the demand." (1857.)

The great scientist, Darwin, the great genius, Wagner, were "wet-packed" all their lives; Parkman and Carlyle tried it once, would no more. Today astigmatism is treated in that way by great physicians. Mrs. Carlyle was also once tempted, and this is her description of it:

"Like a fool I let myself, out of scientific curiosity, be what they called 'packed'—a process which I was told afterward requires a certain preparation and caution; but I submitted myself to it, on the Doctor's suggestion, 'quite promiscuously.' A bath-woman in a thick, white flannel gown, like a white

Russian bear, came to my beside at six in the morning and swathed me tightly like a mummy, first in wet sheets, then in dry blankets, then heaped the feather bed and bedclothes atop of me, leaving only my face uncovered. Then, went away for an hour! committing me to what Paulet calls my 'distract ideas,' and the sense of suffocation, all the blood in my body seeming to get pressed up into my head. One only thought remained to me—could I roll myself over, feather bed and all, on to the floor; and then roll on toward the bell, if there were one, and ring it with my *teeth*? I tried with super-human effort, but in vain. I was a *mummy* and no mistake! So nothing remained to me but to put off going *raging mad* till the last possible moment. When the bath-woman came back at seven she was rather shocked at my state; put me into a shallow bath and poured several pitchers of water over me to compose my mind. But I have not got over that accursed 'packing' to this hour—it shattered me all to tatters."

The mysteries of the infinitesimal dose have captivated many minds, still has charm for people otherwise rational. Mrs. Carlyle's friend, Forster,¹ was once in the toils, and to him she wrote:

"Dr. — is an emissary of Beelzebub! Homeopathy is an invention of the Father of Lies! I have tried it and found it wanting. I would swallow their whole doles' medicine-chest for sixpence, and be sure of finding myself neither better nor worse for it. But then they cut off one's coffee, and wine, and tea; one's cigars, too, if I am not mistaken; they strip existence of all its best realities, till at last, just when one is 'almost trained to live on air,' like the Annandale man's horse, one *dies*! Now, will you give up this nonsense, which can come to nothing but harm? It not only grieves but irri-

¹ Whom Froude tried once to poison with Jewsbury stuff; Forster was too sane and healthy to deal in such.

tates me to think of a man with your eyes to see and heart to understand, *letting* himself be mystified with spoonfuls of cold water! No one knows better than myself that there is a sort of reaction against medical science as one sees it in the present day, which predisposes one to take up with any sort of bold quackery in preference; but your life and health are precious; and so for Godsake leave Dr. — to administer his infinitesimal doses to fine ladies and the like whom the world can better spare." (Do., letter to Forster, 1841.)

Faith-cure, osteopathy, eddyism, hypnotism, are to-day the bane of science. What Mrs. Carlyle would have said to them may be seen from her opinion of their representatives of 60 years ago:

"What is your husband saying to his new gospel of animal magnetism? We are sick of hearing about it. Harriet Martineau expects the whole system of medicine is going to be flung to the dogs presently, and that henceforth instead of physicians we are to have magnetizers! May be so; but 'I as one solitary individual' (my husband's favorite phrase) will in that case prefer my sickness to the cure. One knows that sickness, at all events, comes from God, and is not at all sure that *such* cure does not come from the Devil. The wonder is that sensible people who have heard tell ever since they were born of Witchcraft and demoniacal possession, and all that sort of thing, should at once fall to singing *Te Deums* over magnetism as if it were a new revelation! Nay, anybody that had ever seen a child tickled might have recognized the principal of animal magnetism without going further!"

And she saw through other quackeries than the parasitic professional ones:

"I have no faith in the medical people here; not one of them seems *honest* to begin with. To *get* patients and to *humour*

them when got seems much more the object of these people than to cure their ailments. In fact, what can they know about one's ailments allowing only some *three minutes* to the most complicated cases! And so I leave *my* case to nature; and nature seems to want either the will or the power to remedy it."

And this gay, brilliant, clear-headed, beautiful creature, when she is dead and cannot defend herself, and her husband, has had the horrible ill-fortune to fall under the ponderous nightmare of Froude, and worse yet, under Froude plus Jewsbury, the one who romanced with facts, and the other without them. It is a shame and a desecration! And then a learned doctor tries to make her the victim of "heredity," the dupe of a "groundless jealousy," "mental dyspepsia," and what not else of disfiguring neuroticism, with a straining finally to take away her reason! A more "level-headed" woman never lived.

It had been the charitable belief of the generous that Froude did not consciously and wilfully misrepresent and misinterpret. After the *New Letters and Memorials of Jane Welsh Carlyle*, and the posthumous pamphlet of Froude, that belief will no longer be possible. It is plain that henceforth no independently unsupported statement of his can be trusted. Sir James Crichton-Browne and Mr. Alexander Carlyle have destroyed a big half of his credibility, and he himself has now more than finished the other half. Take as one of the simplest illustrations his reporting

of the condition of things during the six years of Craigenputtock—he the worshipper of his “master,” the truth-lover: “He left his wife to ill-health and toil”; “the housework permanently broke her down”; “her bodily health never recovered from the strain of those six years,” etc. There is not a line, a fact, a word to prove it. It is the reverse of true, as her husband, brother-in-law, and others have abundantly proved. The great pity is that they did not stay there all their life, that she did not really have “toil,” “baking,” “household duties,” etc., and especially the driving, riding, and walking to do ten hours every day.

In default of spectacles correcting her astigmatism such a life would have been one of happiness, physical, mental, and household. The fact is that in Froude’s asinine attempt to ladyize her and “Annandale-peasant him,” he most unexpectedly found that he had not gained the favor of the morbidly sensitive (because morbidly conscious of their own affairs at home) million of wives and husbands, but that he had, as Birrell said, “divided the Carlyle reading public into two classes—husband’s men and wife’s men,¹ with, perhaps, a *tertium quid* which damns them both for a quarrelsome couple.” In his chagrin and desperation he leaves what he thought was his unanswerable horror

¹ Kyng Arthour is our own brother

Therfor we may be blyth

The Horn of King Arthur.

before he got beyond ear-range of his disgusted and amazed readers. His posthumous pamphlet, apart from the financial and legal aspects which do not concern us, is, certainly, the most loathsome and infamous deed a cowardly bungler could degrade himself to commit. And not a single fact exists or statement of any truthful honest person to prove the hideous picture drawn by the Froude and Jewsbury company for blackening noble characters. It is fortunate that the atrocity is so striking that they will only succeed in making their own names loathed. Mrs. Carlyle knew what a liar the Jewsbury creature was, and Carlyle had laughed at her "mythical jottings." Witness this prurient and disappointed maiden lady rush to the unspeakable Froude and filling his ears with her idiotic psychosexual interpretation of a careless remark of Mrs. Carlyle's early days. One may doubt if any such remark was ever made by her. Geraldine's fertile imagination needed no facts to build a whole world of misrepresentation upon, as Mrs. Carlyle well knew and showed in her letters. A dark allusion to "a mysterious secret" in a mind like that of Froude needed only the nudge and wink of the ludicrous Geraldine to fashion "a tragedy as stern and real as the story of Oedipus." And out of this nothing is concocted this nonsense of jealousy, "fierce and violent quarrels, masked and real insanity, impotence," and what not else. Men of judgment will not allow their opinions

concerning, and reverence for Carlyle and his wife to be influenced. Mrs. Carlyle's exacerbation and culmination of ill-health about 55 to 56 needs no such assumed insanities, jealousies, disappointments, abuses, etc., to explain her suffering. She would probably have left blue marks on Miss Geraldine's wrists had she known what we know.¹ What a blunder of Carlyle, his choice of a biographer, he who had written every line himself that was ever needed! Luckily his character is so splendid and glorious that even the greatest wrong he ever committed can be forgiven him, and we may be thankful that he died in ignorance of the inexcusable crime against him and his, by the one he supposed was his friend.

The "alienists and neurologists" find themselves between the devil and the deep sea. If these "hysterias," "mental dyspepsias," "masked insanities," "neuroticisms," etc., are physical, the result (not the cause) of morbid tissue-changes in brain, neuron, or

¹ The immortal Geraldine should have quoted to Froude from Sir Walter Scott's, *The Eve of St. John*.

He laid his left palm on an oaken beam;
His right upon her hand;
The lady shrunk, and fainting sunk
For it scorch'd like a fiery brand.

The sable score of fingers four,
Remains on that board impress'd;
And forever more that lady wore
A covering on her wrist.

nerve, then are the effects inevitable, the patient irresponsible, the whole affair physical and material. But the same men are also given theoretically to irony, and practically to treatment that is psychic. In Mrs. Carlyle's case we have two or three additional irreconcilable hypotheses added to the two others. Thus we get:

1. The hereditary explanation—the father had typhus fever, the mother paralysis, the uncles and aunts had few children, or these died early; the child was prematurely born, hence her sickheadaches, her neurotics, inexcusable jealousy, and an improcreant husband. Wonderful logic and science this!

2. The "excruciating Journal," the "delusional beliefs," "jealousy," "Ashburton episode," "masked insanity," and the rest, are called functional because they are the result of "her state of health," *i. e.*, "climacteric melancholia," or "neurasthenia"—"all due to a disease of the brain and nervous system" called functional, because of the invisibility of the (anatomic) changes that accompany it and their remediable character. If functional one understands the remediableness. But Sir James evidently speaks of their functional character ironically; and in the same sentence of their remediable character *not* ironically; and in the same sentence of their anatomic nature most solemnly and scientifically. Here are three absurdities rolled into one. And not content with this the menopause is added. Does Sir James in this case know that it took

place at the age of 57? Let us be a little exact. Does the melancholia of climactericism precede, accompany, or follow the menopause? Then, for the sake of the god of medicine, what is "neurasthenia"?

3. All agree, Sir James, husband, Froude, that at 57 or 62 there was a sudden change of mind, disease, and emotions in the patient. Let us quote Froude's account:

"Suddenly as if from the grave she came back. The illness had seemed preternatural, the recovery equally so. She had been dying. She was apparently well. She came back into society. She was weak, extremely so, but in good spirits. . . . The last eighteen months were the happiest in his married life, etc."¹

And hence one must ask:

a. Does climacteric melancholia generally end at 57 or 62?

b. Is it synchronous, precedent, or succeedant to the menopause?

c. When did this occur in the special case?

d. Is climacteric melancholia functional or due to cerebral and anatomic tissue changes?

e. Is it due to heredity, typhus fever in the father, etc.?

¹ Froude puts this time of rejuvenescence and joy *after* the breaking-down of her health in 1862. Sir James says the great change came as suddenly in 1857. Both are right and both are wrong.

f. Did all the causes and conditions of the Ashburton episode, the childlessness, impotence, etc., not continue exactly as they were before 1857?

The eroticism, and neuroticism, and tommyroticism seem to be *not* in the patient nor in her husband, but in the "science," "history," and "biography" of their "postmortem friends."

4. One more quotation:

"For several years before the date which I would fix as that of the climax of her mental trouble she had been occasionally taking henbane or hyoscyamus to allay pain and excitability and pretty frequently morphia to compel sleep, and it is a secondary action of the latter drug to induce suspicions and even delusions of persecution in those who habitually indulge in it, . . . tea-bibbing . . . cigarettes."

And the unfounded and untrue theory of narcomania is joined to the dozen other hypotheses, stigmas, etc.! Any number more could be added as superfluously and as ludicrously. Suicidal mania, morbid gloating over murders, "state of unconsciousness," etc.,¹ are really enumerated; why not all the rest in the textbooks of nervous and mental diseases?

Before this little chapter is closed one remaining

¹ Mrs. Carlyle had her own way of innocent exaggeration, as have most sufferers and sensitive people. Even when in love Carlyle noticed it and asked her if she really fainted "all the way up" on her ride to Dumfries. What physician has not noticed the dreamy state, neither asleep nor awake, of patients after great suffering? It is not a morbid state of catalepsy or other 'lepsy.

phase of Mrs. Carlyle's health must be noticed. In no textbooks on general medicine, or on diseases of the air passages will be found the relationship of colds, coryza, or influenza, to diseases of the nervous system. Mrs. Carlyle, when not suffering from headache was always suffering from colds or influenza—"eight influenzas annually," said Miss Martineau. They afflicted her all her life, most exasperatingly and most wearily. I have not copied near all the excerpts which prove the continuousness and severity of these seizures. It is gratifying to be able to quote a great medical authority that such attacks of colds and influenzas—

"May be due to microorganisms, or local conditions in the air passages, but these maladies, as we now know, both depend to some extent on a special predisposition in the sufferer, having its root in the nervous system, and both leave their stamp on that system and gradually undermine it."

Now here is a truth, or a glimpse of it, that deserves most careful pondering by the profession. In Mrs. Carlyle's case it is noteworthy that these colds and influenzas did not coexist usually with headache and sickheadache; that they came on in a most unaccountable manner, without explainable reason, usually in winter, and remained long; and most remarkable that they ceased at the time of the great change in 57 or 62. Wet and foggy, or not, driving, sailing, or not, she is "perfectly astonished with the impunity, etc."

All of Mrs. Carlyle's sickheadaches were caused by eyestrain, a fact beyond all question. As little doubt can there be that no cause can more directly and infallibly upset and morbidize the nervous, mental, and nutritional mechanisms. It thus supplied the "nervous system" with precisely the predisposing condition Sir James Crichton-Browne gives as the cause of colds and influenzas. The inference is very suggestive that Mrs. Carlyle's influenzal attacks were the reflex results of eyestrain. The smile of incredulity with which the allwise may receive the thought has nothing to do with its truth or falsity. In private practice the fact of the interconnection of nasal and ocular diseases has often been noted. Illustrative cases have been published. The details of one such are of exceptional interest:

"A healthy, clear-headed, intellectual man was given two pairs of spectacles for his myopic astigmatism, a stronger or higher correction for use at the theater, driving, etc., a weaker correction for reading and daily or constant use. For a year his wife and daughter observed, without telling him, that whenever he wore the strong, or accommodation-exciting glasses he 'caught cold,' with coryza, hoarseness, etc., which at once disappeared when the weaker lenses were used. He used the stronger ones but few times a year. When certain of the strange coincidence his wife told her husband. In the past 10 years the cold has been produced in this way—a hundred or more times. Now if his weaker glasses get 'crooked,' or maladjusted, miscorrecting his axis of astigmatism by a few degrees, his cold promptly appears, to vanish in an hour after a visit to the optician."

Such cases of the interrelation of nasal and ocular disease may be rare, but the careful diagnostician will always be on the lookout for them.

I have had far more cases of numbness, pareses, and partial paralyses of hands and arms due directly and beyond all doubt to severe eyestrain, and disappearing at once with relief of cause.

There is no evidence of any "tragedy" as between Carlyle and his wife, none of any "Ashburton episode," none even of any ill-feeling to justify the aspersions of Froude and Jewsbury. The entire matter of improcreance and sterility should be left out even of the medical discussion. For the rest Sir James Crichton-Browne has thoroughly settled the question in his article in the *British Medical Journal* of June 27, 1903. While disagreeing with him as to the cause of Mrs. Carlyle's illness, I am heartily in accord with him as to his chief contention. Another error he falls into is his failure to show the influence of her long and terrible illness, to explain even the faults of character or action he charges her with. A careful observer of the effects of eyestrain and sickheadache well knows how they undermine self-control. That they had so little effect in Mrs. Carlyle's case is a glowing tribute to her fine nature. Both she and her husband were sick, very sick, every day of their middle-age lives. If they needed any excuse that fact would furnish an abundance of charity. All of her "neuroticism," etc., was

due to sickheadache, and this, as almost always, was due to eyestrain. Hundreds of thousands of people thus afflicted today, owing to professional neglect and ignorance, are not "neurotics" in any true sense of the word. There is a reproach in the word not justified by Mrs. Carlyle or her illness, and other physicians beside Sir James have been foolish enough to echo him in using it of Mrs. Carlyle—indeed it is a widespread professional fashion when one can't cure or explain the disease of a woman to malign her as a neurotic, hysteric, etc. Carlyle diagnosed their common case better than any of the hundred physicians; each suffered essentially from the same disease. Titles did not entitle any physician in charging it to "gingerbread," nor to "neurotics." The most amazing fact is brought out by this sad scandal, that of all the large number of professional men, and even laymen, who have in the last 20 years written concerning the lives of Carlyle and wife not one has referred to the true nature of their illness, and not one has properly recognized that whatever might be their faults of disposition, etc., their awful sufferings accounted for and excused all. That professional men during the last 25 years should never have caught a glimpse of the truth of the effects of eyestrain is sad, is pitiful, but it is also a crime second only to that of Froude. The old physicians of 40 years ago were excusable, perhaps, although we marvel today at their stupidity. At best

they could say their parrotlike, everlasting "Take a trip to Italy or to Switzerland"; the silliest whispered "gingerbread," or twiddled their fingers. They had not yet learned the pompous pseudoscience that cries, "She is a neurotic, afflicted with climacteric melancholia, the victim of heredity, mental dyspepsia, and masked insanity." The favorite word of this pseudoscience is *stigmata*. If it could only progress so little as to make the addition of a single letter to its lore! If it could only learn one hundredth as much of *astigmatism* as it affects to know of *stigmatism*, less *stigma* would there be, and infinitely less suffering in the world! In the last 20 years any physician who does not know the true nature of such a case as that of Mrs. Carlyle and cure it instantly, should be deprived of his medical degree.

Mrs. Carlyle had a capital inherited endowment, physical and mental; she did not "toil" at Craigenputtock, her health was improved there, was the best and she was the happiest there of any period of her life; neither there nor afterward did Carlyle "neglect" his wife, or was he other than the best of husbands; she had neither "mental disturbance" (of the kind the words imply), "climacteric melancholia," "neurasthenia," nor "catalepsy"; she was not a morphinomaniac, was not "morbidly despondent," she had no "stigmata of mental disorder," no "derangement of the feelings," no "delusional beliefs," no "disease of

the brain and nervous system," no "profound dejection and mad fancies," no "masked insanity" or "mental dyspepsia," no "groundless jealousy" or grounded jealousy; there was no "Ashburton episode," so far as one can learn; there is no evidence whatever that an honest and acute-minded man would listen to for one minute for all this, and especially absolutely none for the Froude-Jewsbury scandals. Mrs. Carlyle's case, medically, was simply one of old-fashioned sickheadache, caused, as any one can see, as all physicians of the present generation should know, and as all good oculists do know, by near use of astigmatic eyes; the intense suffering from this disease became atrocious with the beginning, and increased with each year of presbyopic change, ceased or rather changed utterly in character with completed presbyopia, leaving a wrecked nervous and general system and a sensitive heart, whose beating was stopped by the inhibition of a sudden emotion. "To understand all is to explain all." The mountain of calamitous misunderstandings—scientific, social, and biographic—under which the noble couple are made to lie by the shameless, inaccurate, and ignorant has no warrant for existence. Recognizing and understanding the mystery and awfulness of their suffering, our love and veneration will come to equal the measure of our profound gratitude for the heroism and lessons of their combined lives.

HERBERT SPENCER.

CHAPTER VII.

HERBERT SPENCER.¹

THE following citations concerning the health of Herbert Spencer are from the article by Iles in the *World's Work* for February, 1903:

Spencer was born April 27, 1820.

A contributor to the *Leader*, writing of Spencer, at about the age of thirty, says:

"Despite his vigorous look, he had even then misgivings about his health."

He had, as a young man, a strong bass voice of good timbre, and used to sing in part music until ill-health forbade the exertion.

When he began the composition of "First Principles" in 1860, he adopted the practice of dictating to an amanuensis. He was spending the summer by the shore of a Scotch loch. His habit was to dictate for a quarter of an hour, then row for an equal period with the object of so stimulating the circulation of the blood as to carry him through another fifteen minutes' dictation, and so on through the forenoon. Neither then nor afterward did he work in the afternoon.

Ten years later, at times when his health fell to a low ebb, he would go to a racket court in the north of London, play with the man in charge, and dictate in the intervals of the game. One of the most abstruse portions of his *Psychology*, the *Argument for Transfigured Realism*, was composed under these unpromising circumstances. His usual program as he wrote the volumes of the "Synthetic Philosophy" was to leave

¹ *American Medicine*, March 7, 1903.

his house soon after nine in the morning, and direct his steps to Kensington Gardens. There he walked until nearly ten o'clock, his head slightly bent, his pace somewhat rapid, his mind evidently in meditation.

Ever since [1855] he has been a sufferer from insomnia, and for eighteen months after the completion of his book [the *Psychology*] he could do nothing. Then in his impatience he one day resumed work, to discover, as George Sand and others in like case had done, that his strength gradually came back to him. He slowly regained vigor enough to accomplish a large amount of toil, but never with perfect security; it was always touch and go with him. At such times he threw up his work and hurried away to his native Derby, or to Brighton or Tunbridge Wells. There he went about killing time as best he could, feeling thoroughly bored and miserable. In three or four weeks he would return, apparently restored, and without an effort take up his work at the point where he had dropped it; in a moment the bow of Ulysses was bent as easily as ever. As time went on these relapses grew less frequent, and at the end of fifteen years' work on the "*Synthetic Philosophy*" he found himself, in 1875, in much better health than when he began. In 1897 he underwent a serious collapse, followed two years later by a marvellous restoration, attributed to the use of meat cooked in a particular way. This rejuvenescence disposes him to believe that nervous troubles may be assuaged with advancing years.

He often went to the theaters and the opera, usually in company with friends. He set much store by his annual outing in Perthshire or Argyleshire, where he fished for salmon with the thoroughness which went into everything that he did. His flies were always of his own design. Indoors, when in London, to get through the long, dull evenings when he had no engagements, he played whist at first and then billiards, at which his game was steady rather than brilliant. He often dined out, less from choice than for distraction from toil.

The magazine article of Iles has a full-page portrait of

Spencer reading without spectacles, and entitled, "He reads without glasses at eighty-one." It has the stiff, retracted appearance of presbyopes reading within the easy limit of their near-point.

When Spencer visited America in 1882 his address to his friends at Delmonico's was a chapter from his gospel of relaxation and rest. This was drawn from personal experience. In early life he was told by his physician that his health would never improve while he worked so hard and lived alone in lodgings. From the sixties onward . . . his recreations became varied and of inestimable benefit. When lawn tennis was revived he took it up eagerly; he was always ready to join a picnic or excursion, when he was as active and sportful as the youngest.

He first dictated his correspondence, often rebelling at its onerous demands. Then he turned to his systematic work, soon rising to the full tide of dictation; usually he went on without a break till close on one o'clock, when he hurried away to luncheon. If his health was out of order he would stop abruptly at any moment and leave the house saying that his head felt queer. When fairly well he would smoke half a cigar, finding that it promoted the flow of thought.

Considering the difficulty of his subjects, the solidity of the matter and his finish of style and treatment, his rate of composition was not slow. On good mornings he would produce 1,000 words. This was reduced by the time occupied in revision, the arrangement of materials and relapses into ill-health to a daily average for the year of 330 words. In 1879, when he was recovering from a serious illness, sitting under the trees of Kensington Gardens, he dictated his autobiography to an amanuensis.

Spencer has never been much of a reader; he was wont to say that if he were to read as much as other people he would know as little as they. He has never bought many books, nor borrowed from circulating libraries or other sources, and yet he has managed to accumulate enormous

stores of knowledge. He read but little in the forenoon, and he dared not read at all in the evening through dread of insomnia, but for all that he seemed to miss nothing in print that bore on his work. Almost all his reading must have taken place at odd moments, just after breakfast, after luncheon, and in the afternoons regularly passed at the Athenæum Club. A little time went a long way with him—five minutes over an article, half an hour over a book, availed him as much as half an hour or half a day to another man. Much was communicated to him by friends of eminence in science, etc.

Naturally of a robust build, he preserved his bodily vigor till past sixty; it was in 1884 that he became unable to take his accustomed long walks. In that year he began to drive to the Athenæum Club in the afternoons.

So far as we may draw conclusions from the interesting but, medically speaking, extremely vague suggestions of Mr. Iles, it is at once evident that the symptoms, and their causes, in Mr. Spencer's case are not essentially unlike those of the five already¹ studied. When published, the autobiography may bring more definiteness of detail, and could the case records of his physicians, if he has consulted any, be added, there would be still more certainty elicited in the diagnosis. Of especial service would be the report of the refraction and muscle-balance of his eyes, if such data could be obtained. The early "misgivings about his health," the ill-health as a young man that interdicted the exertion of singing—of these we should like details. Unlike all the others Spencer early learned the wisdom of dictating to an amanuensis, and of breaking up his

¹ De Quincey, Darwin, Huxley, Carlyle, and Browning.

periods of literary work by alternations of rest, exercise, or amusement. These periods of work were sometimes so short in duration as fifteen minutes. The intellectual labor itself, of course, could not and did not tire in so short a time. Like all the men whose clinical biographies I have studied,¹ Spencer used up his ability to do literary work in the few morning hours, and could not carry it on afternoons. He did not use his eyes in such labor evenings because if he did so he was afflicted with insomnia. There was the same necessity as in the others of "killing time," and of being "bored and miserable" in doing so. Only late in life was he unable to take the "long walks" which had been his necessary and saving custom during his life. These long walks, as in the other cases, demonstrate that no organic disease existed, and his 83 years, still well borne, is another proof that the lifelong "nervous troubles" were of a clearly functional nature, that the "always touch and go with him" was dependent upon a temporary, slight, subtle, and easily overlooked cause. In a few minutes "his head felt queer," with near use of the eyes, is one of the most definite hints Mr. Iles gives us, and almost all patients with severe eyestrain make the same complaint.

That Spencer has not been so great a sufferer as De Quincey, Carlyle, and the others mentioned, seems due to several wise habits early formed and always

¹ See *Biographic Clinics*, P. Blakiston's Son & Co., 1903.

carried out during his life: (1) He dictated all his works. (It should not be forgotten that even in his dictation there was probably use of the eyes at near range, in the consultations of notes, references, etc. An average of 330 words a day is a very small result so far as amount of product is concerned.) (2) He availed himself of the literary labor of assistants hired for the purpose, or given by friends. (3) He learned, as few literary workers do, to gather his data from the books, etc., which he consulted, with a fraction of the ocular labor that is required by others. (4) He read little, and, plainly, not at all works of a light or popular nature. (5) He practiced the art of rest and relaxation when he became "nervous" and "his head felt queer," even if fifteen minutes' labor brought on these symptoms. Mr. Spencer's "rejuvenescence" in old age, and his belief that "nervous troubles may be assuaged with advancing years," are but the philosophy of the presbyope who has never heard of the relief that always comes to the eyestrain patient when accommodation effort has become impossible, or when presbyopia has been fully established.

In 1882 Mr. Youmans said of his friend, Mr. Spencer, that he broke down completely from overwork in 1855, and that since then he had not had a night of sound, refreshing sleep. "A victim of overwork" is another expression of Mr. Youmans. Again he says of him in 1882, "The distress of his life for 20 years

has been insomnia." At this time Mr. Spencer was 62 years of age, and hence the beginning of this period of great sleeplessness was when he was about 42 years of age—precisely at the beginning of the presbyopic failure, when eyestrain is greatly increased. In 1855 Mr. Spencer was 35 years of age, at which time Youmans says he broke down from overwork. How much of a "victim of overwork" Mr. Spencer was at 35 and 42 appears plainly in Mr. Iles' article. His speech at Delmonico's was in reproof of our American overworking, and in praise of his own lifelong devotion to the doctrine and art of "rest and relaxation." Of all literary men that ever lived, Mr. Spencer was least accurately described as one who overworked. The explanation of Mr. Youmans is an echo of the old error that when the health of an intellectual man or writer fails, it is because of "overwork." The cerebral function of a philosophic or literary man is not more exhausting than that of a business man, engineer, or physician. Then there are millions of people in our strenuous world who "overwork" without insomnia or breaking down, and who work five to ten times as much as Spencer ever did. But they do not have compound myopic astigmatism, and they cannot "read without spectacles at the age of 81." Insomnia, neurasthenia, and breakdown are common results of eyestrain.

That Mr. Spencer is able to read without spectacles at his advanced age is a perfect proof that he is, and has been, myopic. There is nothing in the fact to be proud of, but rather much to be sorry for. Such patients, if they have not suffered thereby from nervous or digestive disorders, have at least denied themselves one of the greatest pleasures in life, that of seeing the world. They do not know how anything a few feet away looks to normal eyes. But the two myopic eyes of a person are not once in a thousand instances alike in their refraction, nor are they without astigmatism. The symptoms from which Mr. Spencer has suffered, at least from early manhood, show that he has always had compound myopic astigmatism, probably anisometropic. There are thousands, even millions, of literary workers, bookkeepers, seamstresses, clerks, students, and professional persons, who are able to work for ten or more hours a day at near-range ocular labor without "queer feelings in the head," "nervousness," headache, insomnia, or digestive troubles. There are other thousands who are able to do so only by the use of spectacles or eyeglasses correcting the "error of refraction" of their eyes. Without such lenses they have some or many of the symptoms complained of by De Quincey, Carlyle, Darwin, Huxley, Browning, and Spencer. Mr. Spencer has been compelled to adopt the devices described by Mr. Iles in order to obviate, poorly and temporarily, the cerebral and nervous disorders follow-

ing the use of his eyes even for a few minutes. At any time during his life lenses properly correcting his ametropia would, I think, have enabled him to avoid wasting his superb intellect in boredom and "killing time," and would have permitted him an ability to read and work, as well as a freedom from nervous troubles, which would have been to himself the source of the greatest satisfaction, and wherefrom the world would have enormously profited.

WHITTIER.

CHAPTER VIII.

WHITTIER.¹

WHITTIER was born December 17, 1807.

"He attained the full height of his mature years, 5 feet, 10½ inches, when he was about fifteen years of age, but he was always slender, and never strong of muscle." (Pickard.)

"At the age of 17 he sustained injuries from over-exertion in farm work, from the effects of which he never fully recovered." (Do.)

"His brother, five years younger, was his superior in strength and led off in 'breaking' the steers and colts, and in other exercises requiring bodily vigor." (Do.)

He "was accompanied by Dr. Crane, as in the condition of his health it was not thought prudent for him to travel alone." (Do., 1831.)

He had "that consciousness of physical weakness which thereafter was seldom absent." (Do., 1832.)

"I have been embargoed for the past three weeks, unable to stir; and for a week past unable to *see*, the same persistent influenza having finally taken possession of my eyes. I send you something which I scrawled yesterday with a bandaged eye." (Whittier, letter, 1831.)

"But a continuance of ill-health has kept me at home. I have scarcely done anything this winter. There have been few days in which I have been able to write with any degree of comfort." (Whittier, letter, 1832.)

"My health has been bad, is so at this moment." (Do., 1832.)

¹Published in the *Cleveland Journal of Medicine*, September, 1903.

"All of my friends are complaining of me for not answering letters. Continued ill-health, and natural indolence, etc.," (Do., 1833.)

"Always excepting ill-health." (Do.)

"My health is vastly improved; the blues have left me; I go to husking frolics and all that sort of thing." (Whittier, letter, 1833.)

"I must decline thy proposal; my health recently has been uncertain, and I am just getting over an attack of my old complaint,—palpitation of the heart." (Do., 1836.)

"So broken in health." (Pickard, 1836.)

"I have some doubts about its agreeing with me to write very steadily, as since the warm weather I have been troubled with my old complaint of palpitation." (Do., 1837.)

"My health has suffered from my residence in New York." (Do., 1837.)

"At times he was incapacitated for work by serious illness." (Pickard, 1838-1839.)

"Much broken in health." (Do., 1838.)

"My health is most decidedly improved, not by drinking the rascally drugged water here, but by travel, exercise, and open air." (Whittier, letter from Saratoga, 1839.)

"Headache and weariness." (1839.)

"Much refreshed and strengthened by his travels." (Do.)

"During his residence in Philadelphia (1837-1840) a noted physician examined him and reported that there was no immediate cause for anxiety (as to his heart) and with care he might live to be fifty years of age." (Pickard.)

"It was his intention to go to the World's Convention held in London; and we did not know his reason for remaining at home, although aware that he was ill during the winter." (His cousin, "Reminiscences," 1840.)

"His friends had now become alarmed at the condition of his health, and a skilful physician who was consulted, decided that there was serious trouble with his heart and that he must give up at once the labor and anxiety of editorial life." (Pickard, February, 1840.)

"It was hoped the sea voyage would benefit him. He went so far as to procure his outfit and engage his passage. But upon consulting his intimate friend, the skilful physician, Dr. Henry I. Bowditch, he was told that while the voyage might prove beneficial if he could avoid all the excitements of society, there was a chance of serious consequences from any mental or physical exertion, and it would be advisable to remain at home. He did so." (Pickard, 1840.)

"I am still so far as my failing health admits of, etc." (Whittier, letter, 1840.)

"The excursion was given up as were so many projected trips for health and pleasure during his whole life, because he found himself not strong enough to undertake them." (Do.)

"Again stopped by the delicacy of his health." (Do.)

"The extremely delicate state of my health has compelled me to forego the pleasure." (Whittier, letter, 1841.)

"The hand of sickness is sometimes laid heavily upon me." (Do.)

"From increase of indisposition was unable to go farther." (Pickard, 1841.)

"Whittier's failing health and his need of rest." (Do.)

"Up to 1847 nearly all the newspapers he had edited had been interfered with and suspended on account of the delicacy of his health." (Pickard.)

"I have of late been able to write but little, and I have scarcely answered a letter for a month past. I dread to touch a pen. Whenever I do it increases the dull wearing pain in my head which I am scarcely ever free from." (Whittier, letter, 1847.)

"I feel a growing disinclination to pen and ink." (Do., 1849.)

"Overworked and tired. . . . I want mental rest. I have already lived a long life, etc." (Do.)

"In my present very weak state of health, etc." (Do.)

"I am glad thou art able to bear what Charles Lamb

calls 'the dull drudgery of the desk's hard wood.'" (Do.)

"Illness severe and protracted confines me at home." (Do.)

"A sudden and severe attack of illness." (Do., 1850.)

"The worst of it is that a large part of the time I can neither write nor read." (Do., 1857.)

"Lame all over with rheumatism as I am." (Do.)

"Frequently ill." (Pickard, 1857.)

"The state of my health which makes the writing of a letter a painful burthen." (Whittier, letter, 1857.)

"Written during illness." (Whittier, letters, 1859.)

"I am really very ill,—so much so that the writing of a brief note like this causes me a great deal of pain." (Whittier, letter, 1861.)

"I was too ill to write anything else." (Whittier, letter, 1863.)

"I cannot do much more with the proof owing to illness." (Whittier, letter, 1865.)

"I was sick." (Do.)

"All this summer I have been utterly unable to do anything of the kind." (Do., 1866.)

"If my health allowed me to write." (Do.)

"I am forbidden to use my poor head at present." (Do.)

"I am sorry to send so bad a copy, but my head will not allow me to rewrite it." (Do.)

"A miserable, inexorable headache engrosses me. I am a bundle of nerves for pain to experiment with, and I can think of nothing else until this subsides." (Do., 1867.)

"At one time last winter it seemed hardly possible that I should live to see the orchards bloom again, but here I am still." (Do.)

"After two or three days of pain and lassitude, when the grasshopper becomes a burden, I feel so powerless and worthless, so lost in the absorbing egotism of mere physical sensation, etc." (Do.)

"If my head will allow me to copy it, etc." (Do.)

"I would like to see Dickens but I have no head fit to hear him." (Do.)

"During the winter of 1867-68 Mr. Whittier was quite seriously ill with a fever. On the eighteenth of January he was unable to write . . . he had been more seriously ill than he had ever been previously." (Pickard.)

"Too ill for visiting." (Whittier, letter, 1869.)

"I am in no condition of health to write at all . . . the book has cost me a miserable headache and general out-of-sortness." (Do., 1870.)

"Not well enough to go into a crowded hall for two hours." (1871.)

"But a few hours of reading or writing entirely prostrates me. Indeed, for a long time I have only been able to write from half an hour to an hour at a time,—often only a few minutes." (Whittier, letter, 1874.)

"My head possessed by the fiend neuralgia." (Whittier, letter, 1876.)

"He was skilful in devising excuses for short absences from the crowded rooms; and in the quiet of his chamber he would soon get rid of a threatened headache, or mitigate the intensity of his suffering, and appear again among his guests ready to enjoy and respond to their greetings." (Pickard, of about 1877.)

"I cannot read in the evening, and not long in the daytime." (Whittier, letter, 1881.)

"When traveling his eyes insisted upon seeing every landscape on the route, and studying the faces of his fellow-travelers. Hence railway traveling was found very fatiguing." (Pickard, 1881.)

"I have worn the same glasses for twenty years," writes Holmes to Whittier in 1881.

"Hearty enjoyments of walks and readings under the oaks and pines." (Pickard, 1886.)

"Whittier goes nowhere—he *never* visits—his health does not let him." (Mrs. Fremont, 1889.)

"The delicate handwriting has become enlarged to suit the failing sight." (Pickard, 1889.)

"I am feeling the burden of many years, and am not able to read or write much, owing to failing sight." (Whittier, 1889.)

"He read more or less each day, keeping well informed of current events." (Pickard, 1892.)

"He had been subject to sleeplessness all his life." (Pickard, 1892.)

He had a paralytic stroke on September 3, 1892, and died September 7, aged 84 years and 8 months.

"The trouble with his heart became less annoying in later years than in middle life." (Pickard.)

"All his life he was seriously affected by his inability to secure sleep when it was most needed." (Do.)

"The capacity for sleeping, he was wont to say, is the secret of the Englishman's power." (Do.)

"After he had passed middle life his right ear lost its sensitiveness, and he became partially deaf." (Pickard.)

"At 68 the poet was already thinking of himself as in his sere and yellow leaf, little dreaming that one-fifth of his life, the best and most useful years still remained to him." (Pickard.)

"The illness constantly wearing upon Mr. Whittier was believed by the physicians whom he consulted to be an affection of the heart, and he was warned to be exceedingly careful to avoid excitement. The pain in the region of the heart was often severe. His headaches more constant and nearly as painful, were more easily borne as they did not seem so dangerous. These attended him all his life and accompanied every mental exertion. He could not write or read continuously for half an hour, in middle or later life, without severe pain in the head. This debarred him from lectures, receptions, and public dinners unless an opportunity was given him to retire without notice and without causing a disturbance. A continuous mental strain of two hours was intolerable to him. This accounted for his frequent and adroitly managed disappearances, during such festivities as those of

his birthdays. This gave him a reputation for shyness which did not really belong to him. He was a man to enjoy society, and would have done his full part of the talking and listening in any company but for the dread of the inevitable penalty." (Pickard.)

"Whittier was abstemious from necessity and habit, seldom came to the (*Atlantic Monthly*) dinners held once a month. On account of delicate health he had accustomed himself to simple fare, and he never tasted wine or used tobacco." (Underhill, "Biography.")

"Our poet has been remarkable for an extreme sensitiveness coupled with nervous force, while all his life he has been in delicate health and has suffered from nervous headache." (F. H. Underwood, "Biography.")

"He was accustomed to attribute the delicacy of his health throughout life to the methods of toughening the constitution in vogue when he was a lad. No flannels were worn in the coldest weather, and the garments of homespun though strong and serviceable were of open texture, etc." (Pickard.)

"Mr. Whittier had the misfortune to be color-blind, in respect to the shades of red and green. But he thought he had an unusual appreciation of the yellows, which fully compensated him for this defect. He saw no difference in color between a red apple and the leaves of the tree upon which it was growing. It was only the white or yellow rose that had for him any beauty except of form. He thought he enjoyed the splendors of an autumn landscape in a wooded country as much as the ordinary observer, especially if there was a fair admixture of yellow foliage. . . . His mother discovered this defect when, a little boy, he was picking wild strawberries. He could see no difference between the color of the berry and the leaf. 'I have always thought the rainbow *beautiful*' he once said with an amused smile, 'but they tell me I have never seen it. Its only color to me is yellow.' . . . Dr. Jeffries, an authority on color-blindness, says that Mr. Whittier was a typical specimen of the infirmity, and further,

that the little woodcut portrait of him published in Houghton, Mifflin & Co.'s book catalogue is the best picture he has ever seen of the characteristic look of the color-blind." (Pickard.)

"The tradition is that Mr. Bachelor was a man of remarkable personal presence, and was particularly noticeable on account of his wonderful eyes. They were dark and deep set under broad arches, and could throw lightning glances upon occasions. For more than a century the 'Bachelor eye' has been proverbial in New Hampshire and in Essex County, Mass., and the striking feature has been steadily perpetuated. The resemblances between Whittier and Webster were long ago observed by those who were unaware of any relationship. Though unlike in many respects, there appeared to be a marked similarity in their broad and massive brows, swarthy complexions, and expressive eyes. The common characteristics of the eyes were in looks of inscrutable depth, the habit of shooting out sudden glances, and the power of tender and soulful expression as well. It is now known that not only Whittier and Webster, but William Pitt Fessenden, Caleb Cushing, William B. Greene, and other prominent men, inherited their fine features, penetrating eyes, and gravity of manner, from the same ancestor. The majestic bearing and presence of Webster were everywhere known. The keen glances of Cushing, the eminent scholar and diplomatist, and the deeper, haughtier, looks of Colonel Greene are well remembered in Massachusetts." (Underhill, "Biography.")

(Whittier descended from Rev. Stephen Bachelor [or Bachelder] of Hampton, N. H., through his mother, Abigail Hussey.)

The nature of the mysterious malady which afflicted Whittier was never suspected by himself, his friends, or his physicians. It was the same in the cases of De Quincey, Carlyle, Darwin, Huxley, Browning, Spencer, Parkman, George Eliot, Lewes, Mrs. Carlyle, Margaret Fuller, Nietzsche, and Wagner. As one gathers to a

focus the extracts concerning the ill-health of each, the truth bursts on the view except of those who do not wish to see it. In life it was hidden by habit or the discontinuousness of the symptoms, because the medical world had not seized upon the principle either of accurate intuitive or scientific inductive diagnosis, and also because the symptoms, as is usual in such cases, although directly connected with ocular use, usually left the eyes free from trouble and were found in distant organs. The peculiar blindness to the fact, the obstinate inability to draw so simple an induction is astonishingly seen, however, in the cases of Parkman and Nietzsche, who with vivid and intense cerebral symptoms had equally as severe ones in their eyes themselves.

The fertility with which patients invent irrelevant reasons for their ocular affections is only equalled by the same ingenuity in explaining their distant but ocularly-caused reflexes in some whimsical way. All of De Quincey's malady was ascribed to a knock on his head when he was a schoolboy; Darwin's life-sufferings were said to be due to the *Beagle* voyage; those of Parkman to his dysentery while on a lark among the Indians of Oregon. A similar mistake is at once found upon opening the Whittier biography. Whittier's childlike and even childish theory of the pathogeny of his fifty years of illness may be passed with a smile, and betrays the slight want of virile stoicism which forces

itself on the attention of the medical reader of his biography. Another theory was that his sufferings were due to overexertion in farm work at 17, which injured him and "he never fully recovered from it." Probably to this cause, or to the mystery of fate, was ascribed his "heart-disease," even a Philadelphia authority having told him at the age of 30 or 35 that he might with care live to the age of 50. "Dilation of the heart" was only finally laughed out of thought in Huxley's case, by Sir Henry Thompson a few years before the patient's death. Wagner was worried by it, and the excerpts show how it haunted Whittier much of his life. In all their cases, the "palpitation," naturally attracting the patient's attention and alarming him, was probably due to a reflex from eyestrain. I have had several cases in which such a relation was clearly demonstrated, and others have been reported. Whittier himself says that writing steadily produced palpitation "his old complaint,"—"old" at the age of 29! If it was an organic disease of the heart it would not have been produced by writing, would not have troubled him synchronously with eyestrain, would not have bettered as he grew older, and disappeared entirely with fully established presbyopia.

Raised upon the farm and working hard every day, with no pronounced tendency driving the boy to reading, the records show no sign of ill health or of eyestrain unless the "slenderness," "never strong of

muscle," etc., are thus classed. But that at the age of 23 his health should be so bad that a physician was needed to accompany him on a short journey is highly significant, and without any explanation of the nature of the disease or symptoms, it is fully as mystifying. A little later, though in the same year, "influenza took possession of his eyes," making it impossible to see, and compelled the bandaging of one eye. The next winter he was kept at home, and doing nothing by ill-health, able to write with any comfort for but a few days. Already there is the recognition of the fact that writing produces immediate illness, and in the twenty-fourth year he cannot answer the letters of his friends. Suddenly "the blues have left" and his health is vastly improved, and he goes to husking frolics, etc., but as suddenly the old woes return. Travel, exercise and open air "vastly improve" his "broken health," followed by headache and weariness, followed again by health in travels. There is a general going from bad to worse however until his friends are "alarmed" and he is forbidden the trip to London, "as were so many projected trips for health and pleasure during his whole life." If I am correct in the theory that his ill-health was entirely due to the use of his eyes in reading and writing, the advice not to go to London, and not to take all the other trips was the reverse of good.

That this theory is true is proved by Mr. Whittier's own words written when he was 39:

"I have of late been able to write but little, and I have scarcely answered a letter for a month past. I dread to touch a pen. Whenever I do, it increases the dull wearing pain in my head which I am scarcely ever free from."

Again two years later he writes: "I feel a growing disinclination to pen and ink."

It must be noticed that with compound hyperopic astigmatism present (as it must have been in his case), Whittier was now beginning to have the added irritation and strain of presbyopia. The complaints multiply and the illnesses become more protracted and more severe. As with most of the other patients studied, especially Wagner, there was the deep conviction of growing old. Whittier, at 41, says: "I have already lived a long life." At 49, he "can neither read or write a large part of the time," and the writing of a letter is a "painful burden." When he was 53 he writes: "I am really very ill,—so much so that the writing of a brief note like this causes me a great deal of pain." At 55 he "was too ill to write anything else," and at 57 he cannot correct more proof because of illness. At 58 he could not write all summer, his "health will not allow him to write," his "head will not allow him to copy" a poem, and at 59 his "miserable inexorable headache so engrosses him" that he seems to himself "a bundle of nerves for pain to experiment with," and "after two or three days of pain and lassitude" he feels "powerless and worthless, so lost in the absorb-

ing egotism of mere physical sensation," his "head will not allow him to copy," etc. He did not think he should live to see the orchards bloom again, shows the same presence of death that afflicted Darwin, and far more keenly, Wagner.

The end of presbyopic failure and the resultant climax of intensity of reflexes comes at this time. Even at 62 "the book has cost me a miserable headache and general out-of-sortness," an expression that shows a decided lessening of the severity of the reflex. It takes a few hours of reading or writing to prostrate him at the age of 66, and in the sixty-ninth year he gets rid of a "threatened" headache by leaving the room for awhile, returning soon to his guests ready to respond and to enjoy, etc.

With completed presbyopia, naturally a little later than usual in his case, of course the reflexes cease and, barring the infirmities of old age, there is freedom from the fifty years of wretchedness. At 79 there are hearty enjoyments of walks and readings under the oaks and pines, during the summer. Even at 84 he "read more or less each day, keeping well informed of current events,"—but there is no word of the headaches of former years.

To one who had not heard from many patients the tale of their sufferings exactly like that of Whittier, and who had not observed in them the same results of self-scrutiny, exhaustion, and sensitiveness, the fact of

his daily concern and emphasis of pain, might itself seem morbid. But the sympathetic oculist will make no such mistake. There is no disease more terrible in its intensity of pain, more likely to crush out virility and morale, than this agonizing affection. Had Whittier not been essentially of the heroic type, a Friend who by ancestry, faith, and nurture had not been predestined to quiet valor and endurance, the pain he suffered would not have left him his heart of healthy and sunny manliness. Pity for his sad lot by those who know what he endured, is in reality heightened. It is no small grief to feel every attempted avenue of ambition closed to a young man of superb intellect and ability by some silent, subtle, palsying evil in one's innermost life, the nature of which cannot be divined. What a pathetic fact for such a man to find at forty that "nearly all the newspapers he had edited had been interfered with and suspended on account of the delicacy of his health." What a sorrow for one with splendid enthusiasm for a great cause, with exceptional political power, and with absolute self-abnegation, to leave the awful and imperative national struggle, and go back to the home and to bed to nurse his wracked brain. And then never to find the sleep he so vitally needed!

There can be in such cases and particularly in Whittier's case, no Mephistophelian satisfaction in supposing the world and poetry gained by disease. The little boy

who made verses in the back part of the room while the rest in his hearing chattered away their evenings, who never ceased to make them even in the mob-days of the antislavery contest, who continued to do so even when in deepest misery and during the hardest physical or intellectual labors,—such a man would not fail to be a poet even though his clothes were drab and of antique fashion, his heart impassionate, and his eyes color-blind.¹

The awfulness of the pathos of it all is only heightened by the knowledge we now have, that had his life been cast among ours of to-day he could have found instant and permanent cure of his now well-understood “nervous headaches.” Every good American oculist of a few years’ experience has had thousands of such patients. But there are still among us other thousands unnecessarily suffering precisely as did this most noble, pure and lovable man.

¹ Color-blindness is more frequent among Quakers than others, more among men than women. It has no pathologic significance in Whittier’s case nor in that of any patient. Color-blindness, it has been demonstrated, is preventible. Little children who have been taught discrimination of colors in the kindergartens, are seldom or never thus devoid of normal color-sensations. Dr. Jeffries must be incorrectly quoted, because one cannot imagine how it could affect physiognomy or the expression of the eyes in the slightest degree. The “Bachelor eye” is likewise without any bearing on medical symptomatology, but should be of interest to the sillies who aver that the eye has no influence upon facial and esthetic expression.

MARGARET FULLER OSSOLI.

CHAPTER IX.¹

MARGARET FULLER OSSOLI.²

SARAH MARGARET FULLER was born May 23, 1810. Higginson says of her :

"She began the study of Latin at the age of six, and was carried on from that period, by an intellectual forcing process. . . . High pressure is bad enough, for an imaginative and excitable child, but high pressure by candle light is ruinous; yet that was the life she lived. . . . All her lessons were recited, as a child, after her father came back from his office, and therefore at irregular hours, often extending late into the evening."

This "intellectual forcing process" was also chosen by herself and became habitual. For instance, at 15, she rose before 5, walked an hour, practiced an hour on the piano, breakfasted at 7, read in French till 8, in philosophy to 9.30, went to school for Greek at 12, and practiced again till dinner. She then read two hours in Italian, then walked or rode. In the evening she played and sang; and retired at 11 to write in her diary.

¹The data for this "clinic" have been derived solely from Higginson's life. I have not thought it necessary to search through other extensive memoirs, letters, etc., because the essential facts gleaned from this work are sufficient to present the requisite outlines of this patient's ill-health.

²Published in the *St. Paul Medical Journal*, December, 1903.

She devoured whole libraries, it would seem, and would fill the hood of her cloak with books at the public library, swing it over her shoulders, and so carry them home.

That she was not only an ardent reader and student, Higginson makes abundantly clear :

"Teaching little Fullers, as she called it, occupied much of her time; she had the sewing of four children also on her hands; her mother was often ill, her grandmother always; often they had no domestic; and she sometimes had pupils not of her own family. Three evenings in the week and odd hours during the day were all that this omnivorous student could command for herself."

Higginson adds :

"Mr. Emerson says justly that her reading at Groton was at a rate like Gibbons'. And this continuous study was not the easy amusement of a young lady of leisure; but it was accomplished under such difficulties and preoccupations that every book might almost be said to have cost her a drop of life blood."

This was at about the age of 23, and "it is no wonder that she worked herself ill at this time, desperately ill; her life was saved with difficulty."

While still a young girl her biographer speaks of "that peculiar carriage of the head and those half-shut eyelids which have been so often described," and "she danced quadrilles very awkwardly, being so near-sighted that she could hardly see her partner." "Her eyes," it is said, "would have been good had they not been injured by near-sightedness."

At the age of 37 she missed her friends in St. Peters, in Rome, and "walked about in some perplexity, scanning different groups with her eye-glass." This is about all we can learn as to her eyes, of direct significance; but when coupled with what we learn indirectly and by suggestion, it furnishes the keynote to her life and character. Nearly every day of their practice modern oculists have patients whose eyes and life have been ruined by wearing myopic lenses of too high power, alike for both eyes, and of course without correction of astigmatism. Not seldom such patients are not near-sighted or myopic, but the reverse. At least one may say there is always present either some astigmatism, or some anisometropia. Left to their own choosing, or guided by the ignorant optician they will always choose too highly myopic spherical lenses, even for the more myopic eye (leaving the other to suffer), and rendering the myopia "malignant" or increasing. This also increases the terrible reflexes to the head or digestive system above what would be with no glasses whatever. This was undoubtedly the case with Nietzsche, as well as with Margaret Fuller before and after her marriage. That headache and other suffering followed in these instances is itself proof that the glasses used increased rather than lessened their sufferings, and that their ametropia was not simply isometric myopia. Such a defect as this last may, in rare cases, become ingravescient or malignant, but would never

cause any cerebral or systemic reflexes. The life wreckage of this patient and of Nietzsche was therefore due solely to uncorrected ametropia.

But, as we have so often found, it was naturally ascribed to other causes. Of herself many years afterward Margaret wrote :

"It is not mother's fault that she was ignorant of every physical law, young untaught country girl as she was; but I can't help mourning, sometimes, that my bodily life should have been so destroyed by the ignorance of *both* my parents."

And to her brother she wrote, "At Groton (during her early womanhood) your mother's health was injured and mine destroyed." It is clear that neither the father, mother, nor the "intellectual forcing process" were directly to blame for her life of ill-health, but that it was wholly due to eyestrain, the use of ametropic eyes,—not the overuse, as there is no such result from overuse when the ametropia is properly corrected by scientific spectacles. This truth begins to appear in Margaret Fuller's case as early as the age of twelve, at which time we read that "her beauty of complexion was spoiled by a tendency of blood to the head;" the biographer with confidential pathology adds that this must have been assisted by tight-lacing. This "tendency of blood to the head" is an old friend (or enemy?) of the elder physicians, and even today with as unconscious a grace, or, rather, disgrace, the booby may be found in our offices.

The following quotations give further hints of the life of Margaret Fuller :

"Concord, dear Concord, haven of repose, where headache, vertigo, other sins that flesh is heir to, cannot long continue." (Letter to Emerson, at age of 27.)

"The woman who wrote this was but 27, poor, a martyr to ill-health, and with a desperate hungering of the soul to do her appointed work in the world, and to make full use of the talents confided to her." (Higginson.)

"Headache and nervous exhaustion." (Do., aged 28.)

"My sufferings last winter in Groton were almost constant." (Letter to Emerson, aged 28.)

"During this invalid winter." (Higginson.)

"She has overcome so much extreme physical and mental pain, etc." (Miss Hoar of Marquet; written when she was 29.)

"I was obliged to lie on the bed all the time my class were with me." (Letter, about 1839.)

"It is asking a great deal of any single woman to be positively happy in the presence of tormenting ill-health, poverty, and a self-sacrificing habit that keeps her always on the strain." (Higginson; about 1839.)

"I do not suppose she was a perfect teacher; her health was variable, etc." (Higginson; at age of 30.)

"My head is very sensitive." (1841.)

"And in moments of profound thought or feeling or when, after violent pain in the head, my exhausted body loses power to hem me in, etc." (Diary.)

"For him, or for you, it would have been much easier than for me, for you have quiet hours and better health." (Letter, aged 32.)

"I go on very moderately, for my strength is not great." (Letter, 1845.)

"Sick all day from fatigue or excitement." (Diary, 1846.)

"Still ill, but walked out in the afternoon, etc." (Do.)

"My nights become more and more disturbed, and this morning I was obliged to be bled again, since then I find myself relieved but weak." (Do.)

"Since it gives you so much fatigue, ask the master of the house to write, if nothing else, a little assurance of your health." (Her husband, 1848.)

"I am a little better; but if I could thus pass a less suffering day!" (Letter, 1848.)

"I write in bed. . . . I have been ill with milk fever." (Do.)

"I have always suffered much in my head at sea." (Do., 1850.)

"Her health was feeble and delicate." (Mr. Cass, American Chargé d'affaires at Rome, 1851.)

"I found her lying on a sofa, pale and trembling, evidently much exhausted." (Do.)

The intimate and causal relation of near work with the eyes, and of resultant cerebral and systemic suffering (with relief when out-of-doors, exercising, etc.), has been constantly seen in the biographic clinics of the other thirteen patients studied. This is clearly revealed by excerpts from their letters, also from facts of their lives; but, even while chronicling these facts repeatedly, neither the patients, their physicians, nor their biographers, ever suspected this nexus of cause and effect. The fatalism with which all accepted the suffering, is amazing. The mystery of it appealed to their minds, often most pathetically, but the demand of the modern scientific mind for a cause, and the resolve to hunt it out and extinguish it, was not, and also, today too often, is not, active or earnest. In any other

department of thought or feeling the curious mind is earnest to find the causes of facts but in popular pathology it is not so. And therein we behold the last residue of the ancient fatality which has so long dominated the human mind. Reviewers and men who pretend to be clinicians and scientific write in medical journals or to me, cynically of my "possession by a theory," of my "infatuation," "exaggeration," etc., and all the time, in other diseases than in these discussed, they will insist dogmatically on the etiologic factor, obscure, ancestral, infectious, or organic, of the diseases of their patients. But if these patients read or write and immediately suffer, if the fact is demonstrated a thousand times, that makes no difference to these omniscient and self-satisfied dogmatists. It is simply prejudice and unscience; it is not reason, nor is it medicine. Witness once more the inferences of the following citations in reference to Margaret Fuller's case:

"When I wrote the first line of this letter I thought I should fill it with some notes I wished to make on the Hall Sculpture. But I was obliged to stop by a violent attack of headache, and now I am not fit to write anything good." (Letter, 30 years old.)

"... At this place [in her letter] I was obliged to take to my bed,—my poor head reminding me that I was in no state for criticism." (Do.)

"This (October, 1841, number of *The Dial*) was prepared under difficulties, and she had to write 85 of its 136 pages." (Higginson.)

"It is plain, from the reluctance to write which she so often expresses." (Do.)

"I am in a state of extreme fatigue. . . . I have barely scrambled through and am now quite unfit to hold a pen." (Letter to her mother, 1840, or 1841.)

"Now for more than three months I have been able to write no line except letters." (Do., 1842.)

[Descriptions of walks, rambles, out of door sketches, woods, landscapes, etc., abound.]

"Of late I have been as gentle, as dull, and as silent as, etc., . . . and I hope there may be a flow after this ebb which has almost restored my health." (Letter, aged 31.)

"She was correcting the press during much of the spring of 1844, when the proof sheets came in every evening. I expect it at night, she writes, etc."

"During this period she had many sleepless nights, as appears by her diary, with such constant headaches, that she chronicles not the days when she has them, but when she is without them." (Higginson, aged 34.)

"She had the society of a favorite out-of-door companion, . . . lived in the open air with her when the sun shone, and composed only on rainy days." (Higginson, November, 1844.)

During this time she wrote to Emerson:

"I have been happy now in freedom from headache . . . and have spun out my thread, etc."

"At last I have finished the pamphlet. . . . After taking a long walk early in one of the most noble, exhilarating sort of mornings, I sat down to write, and did not put the last stroke until nine in the evening. . . . That was several days ago, and I know not how it will look on revision, for I must leave several days more between me and it before I undertake that, but think it will be much better than if it had been finished at Cambridge, for here has been no headache, and leisure to choose my hours." (Letter to Channing, 1844, aged 34.)

"I receive, now I am separated from all my friends, letters in great number, which I do not attempt to answer, except in urgent cases. . . . My friends know that if I had the time and strength which I have not, I must not fritter away my attention, etc." (Letter to her brother, 1845.)

"Greeley could never overcome a slight feeling of professional superiority to the woman who could not write more than a column of matter to his ten; and who was sometimes incapacitated from work by headaches." (Higginson, about 1845.)

"While traveling, and in Rome, 'she was for a time better in health than since she was a child.' At this time she wrote to her mother that she had not been so well since she was a child, or so happy even then." (Higginson, aged 37.)

"I have passed a very bad night, my head is this morning much disturbed. I have bled a good deal at the nose, and it is hard for me to write." (Letter, 1848.)

"The weak state of my eyesight has prevented me from giving your letter an earlier reply." (Letter, 1851, aged 41.)

The fact of ocular labor as a direct cause of greater suffering, in winter when it was relatively impossible to be out of doors, and which was most noticeable in Wagner, and other of our patients, also comes out in the biography of Margaret Fuller. She gives in 1841 an idealistic "Recipe to prevent the cold of January from utterly destroying Life." She writes in 1832:

"Yesterday I found myself so unwell and really exhausted. . . . There is a perceptible diminution of my strength, and this winter has been one of so severe labor, I shall not recover fully from it for two or three months. Then, if I must take up a similar course next winter, and have this tie upon me for the summer, I think I should sink under it entirely."

It requires no exceptional keenness of insight to notice that her eyestrain and the effects it had on brain, health, and character, were the chief causes of the limitation of the amount of her literary work, and of its defects. It morbidized, in one way or another, her intellect, and the excellence of its work. Here was a woman endowed with an innate ability, greater at least than an American woman of her century, as exceptional as that of any man, indeed, and with a power of absorbing knowledge scarcely equalled in the world. It was all crippled and thwarted by her inability to make the desired use of her eyes. There is a pathetic indication of this in at least one excerpt that might be made:

"I begin to be so tired of my book! It will be through next Thursday, but I am afraid I shall feel no better then, because dissatisfied with this last part. I ought to rewrite the Indian chapter, were there but time! It will I fear seem desultory, and ineffectual, when my materials are so rich; over rich, perhaps, for my mind does not act on them enough to fuse them." (Diary, 1844.)

"The work was done, as her preface states, under many disadvantages, much of it being dictated to others, on account of illness." (Higginson, of Eckermann's Conversations, 1840.)

She was finally driven to travel, waste of her life in Rome, and at last wreckage, both metaphoric and literal.

A curious outworking of this fatal necessity, and one which does as much honor to her character as to her intellect, one that allows us to look into the very heart

of her tragedy, is revealed in the following, taken from her diary of 1839:

"When I have not joyous energy in myself, I can do these little things for others; very many of my attentions are of this spurious sort; they are my consolations; the givers (of gratitude) who thank me are deceived. But what can I do? I cannot always upbear my life all alone. The heart sinks and then I must help it by persuasions that it is better for others I should be here, and theirs. It is mere palliative, I know. In earliest days how many night-hours have found me thus. I was always so lonely." (Diary, about 1839.)

Despite all this, Higginson sums up her life thus:

"Her life seems to me, on the whole, a triumphant rather than a sad one, in spite of the prolonged struggle with illness, with poverty, with the shortcomings of others and with her own."

With the most distinct foreboding and conviction of accidental death, she embarked, with her husband and child, at Genoa, May 17, 1850, bound for her native land. They were drowned off Fire Island, while the life-saving crew were vainly endeavoring to succor them. Poverty had compelled her to take this little merchant vessel instead of a safer one, the poverty that was a consequence of her inability to use her eyes and brain as she might have done under other circumstances. When one thinks that at the age of forty she was surely coming into presbyopic years of inevitably greater suffering, want, and tragedy, the catastrophe appears almost providential, the fate at least piteously kind. Death is preferable to the fate of Nietzsche.

NIETZSCHE.

CHAPTER X.

NIETZSCHE.

"Es geht uns in diesen Dingen wie es uns im ganzen Leben geht: wir bringen es schon zur Erkennung eines Uebelstandes aber ist auch damit kein Finger gerührt ihn zu beseitigen."
(Letter of Nietzsche, 1867, aged 23.)

"In my eyes I have a dynamometer of my entire condition."
(Letter, 1888, aged 44, and just prior to his collapse.)

The amusingly unsuccessful attempts of Professor Möbius¹ to read his own preconceptions into the life, character and illness of Nietzsche, have no better illustration than that pertaining to ancestry and heredity. If "science" is capable of such unscience then may the sponge be drawn over the slate, and the whole supplanted with the single sentence of Nietzsche's sister that there was in Nietzsche's case a sound and healthy ancestry. Many pages have been written concerning Nietzsche's father, and the cause of his death, and Möbius has made it sure to his own satisfaction—certainly not to that of his readers—that there was glioma of the brain. The simple fact is that having previously been in every way normal in mind and body, a dog one day caused him to stumble and

¹ Ueber das Pathologische bei Nietzsche, von Paul Julius Möbius, Wiessbaden, Bergmann, 1902.

plunge down a stairway, severely injuring his face and head. Cerebral symptoms at once followed and he died eleven months after with symptoms of brain troubles and meningeal irritation. Young Nietzsche was then three years old. He was born in 1844.

There was strong complaint and criticism in later years of the wretched darkness of the rooms at home and at school in which the boy was compelled to study, and of the miserable oil lamp by which the family read, wrote, or worked, in the evenings.

"In 1861 he had been a model boy at school but suddenly changed and become a somewhat careless scholar, the reason for which his sister could not explain; he was enthusiastic in roaming the woods, and in chopping wood. He complained very much about the conditions of his school-life, throwing himself with great passion into other interests which lay beyond his studies." (Biography.)

From January to autumn, 1862, he appeared sound and healthy but suffered greatly during these months from colds, hoarseness and frequently recurring pains in the eyes and head preventing study, etc. (Aged 18.)

He was excused from school in order to get relief from severe headache and pain in the eyes; by means of walks and baths he recovered "soon and completely." (18.)

He was always backward in and disliked mathematical studies. (19.)

After a number of instances of breaking school rules, he seemed to have gathered himself together and made himself a model scholar, well liked by his companions. (20.)

"He writes and reads daily from the rising hour until 8:30 evenings without intermission except to eat." (Letter, aged 20.)

He was the picture of health and strength, broad-shouldered, brown with heavy dark blonde hair, etc. (21.)

"Health from day to day pitiable. What will be the end?" (Letter, 22.)

"Since the last vacation I have suffered severely with rheumatism in my left arm." (Biography, 21.)

"I have been very ill during the last weeks, have been confined much to bed, even during the most beautiful days. My complaint is a violent rheumatism which crept from my arms into my neck, from there into my back, thence to my teeth and at present daily causes me the most intense headache. This continuous suffering has very much exhausted me. On certain days when I was better I went to Ems with most gratifying results from the quiet life there and the freshness and exhilaration of nature." (Do.)

During his vacation the rheumatism again "crept" back again from the head to his arms and spoiled the first weeks. (Do.)

"Bodily suffering persisted; for 14 days I was forced to go to bed at two o'clock in the morning to rise at six. A nervous excitability seized me and who knows to what extreme of folly I might not have gone had not the pleasures of life, vanity, and the compulsion of regular study prevented."

Suddenly in February word came home that he had twice fainted away during the drill, and it was found that two days previously he had severely injured his breastbone against the pommel of his saddle in attempting to mount a fiery horse. In spite of great and increasing pain in his left side, he continued his drill, etc. Fever, confinement to bed, and severe pus-formation followed, and after a long convalescence he recovered his health with the exception that the wound remained open and the pus continued to flow. (24.)

The abscess continued to discharge and in June an operation was considered necessary. He was sent to Halle and placed under the care of Volkmann, who succeeded in closing the wound and healing the abscess without an operation. The injury never troubled him any more. (24.)

He was appointed professor at Basel in classical philology in 1868.

In attempting to be of service to his native land he went to Erlangen to care for the sick and wounded. He contracted diphtheria from a patient; to this his sister traces much of his later bad health. (26.)

"My health is so bad that my physicians are sending me south. Inflammation of stomach and intestines. Horrible insomnia!" (Letter, 26.)

He was exceptionally moderate in all things, quiet in his manner and bearing—prone to gaiety—in all things the opposite of a nervous or excitable person. In 1888 he wrote. "My blood runs quietly"; a physician who treated me for a long time as one nervously ill, finally said, "No, it is not your nerves that trouble you—it is I myself that am nervous. . . . Before he lost his health and even afterwards my brother was a great friend of hygiene and natural cure; cold rubs and baths, walks, house-gymnastics, were zealously carried out, and even the problems of nutrition occupied his attention while his digestion was still good. He even tried vegetarianism for a while. . . . He was incited to this by the example and the enthusiastic advice of Wagner." He finally thought that nature revenged herself upon Wagner in this respect, and speaks also of the sacrifice of another friend to such an experiment. (Biography, 26.)

". . . A long intermission of idleness and some natural methods of cure were necessary to restore him. He would not be sick, he had no time for that! His creative mind scorned every inactive hour. He would be well quick and thought to bring this about by drugs. One who like myself has seen such a normal and splendid nature gradually ruined as was his, will understand my passionate wish that the whole science of medicine were finally unlearned. Individual physicians have already done this. With bitterness I think how little the extraordinary and entirely varied influence of place, nutrition, and climate upon different persons is recognized and taught; for instance I hold that the climate of Basel is entirely inappropriate to all those disposed to migraine. Life

and experience have taught me this, too late to help the one whom I have most loved." (Biography, 26.)

"Drugs destroyed my brother's good stomach¹; after his recovery, so far as external appearances went, from a great shattering of his health, there was a severe recurrence every two or three weeks of his migraine. He now sought to overcome it by every kind of treatment, but this made it only the worse. To this was added severe ocular troubles attended at times with great pains in the eyes. Stomach difficulties, headaches, eye troubles, sleeplessness, such were his afflictions. Finally he lost all faith in physicians, but not, alas, in drugs." (Do.)

"His frequent illness made him more and more a subject of treatment and commiseration. . . . He endeavored during the intermissions of his sufferings, and with his reduced power of work to bring the entire limitless circle of all his knowledge to word and system." (Do.)

"If only my eyes would hold out." (Letter, 26.)

In January, 1871, "His health continued to grow visibly worse. He became jaundiced, enteritis set in, and he was bitterly tormented by sleeplessness. Leave of absence was obtained from the university for an extended vacation in Italy. With out-of-door life he immediately recovered health and spirits and his playfulness was so noticeable that it was said of him that he must be 14 instead of 26 years of age." (Biography, 26.)

He returned to Basel April 10, 1871.

"Headaches," "uncertain nights, with terrible dreams," "headaches," are noted. "A horrible earnestness seizes me in everything I attempt to do." (27.)

Extremely, extremely depressed. . . . He suffered greatly with his eyes during the summer, and a friend attended to much of his correspondence for him. . . . During the entire

¹ Frau Förster-Nietzsche's homeopathic prejudices and education are frequently visible in the biography. Doctors she does not like.

NIETZSCHE.

The stomach has retracted to its normal limits, but the nervous condition of the stomach is a tiresome matter. According to the demands of the cure you must be very strict and lose no patience. During the fresh cool weather I had some very good days, and wandered about through the mountains and forests, always alone, with great pleasure and joy."

"... For my pleasure and instruction, Dr. Weil will cook with me. He is a famous artist in cookery and an author of a much used, much translated, dietetic cook book. He yesterday delivered a lecture to me upon enamelled cooking utensils, and a new meat-chopping machine, and in this way I learn much for my own housekeeping."

He returned in the fall in excellent health and full of cheerfulness. Even when in bad health he was never in bad humor. He reserved the morning for his original work and considered it criminal even to read in the forenoon. He was taking long walks at this time and had his sister with him. (31.)

By the end of November his health had grown decidedly worse, but how much work he was doing! Feeling himself so well it seemed he could not give himself sufficiently severe tasks in working and study. Besides historic, mathematic, physical, scientific and economic studies, he planned a collection of empirical materials of human knowledge. (1875.)

Not feeling himself so well his sister read to him during the evenings. "The fortunate domestic relations which he had then established, proved in reality bad for him. Finding himself so comfortably situated at home he went out less, and was less inclined to take pleasure trips, and plunged with redoubled energy into study. Before either his physician or himself had recognized it, I saw that the stomach was not the sole cause of his troubles, but that his intellectual exertions were equally to be blamed, and that the only way of saving him was by frequent change of climate and surroundings. But the worst of it all was that as soon as he felt himself worse he began treating himself with the old drugs. Shortly after Christmas

his health broke down altogether, he suffered with frightful headaches and painful vomiting of mucus, for almost four days continuously; after a short omission the same thing again occurred. It was plain that he must leave Basel." (31.)

"It has not been well with me: very frequent sufferings of stomach, head, and eyes." (Do.)

"A bad time behind me and perhaps a worse to come. The stomach could not be conquered even with most ridiculously severe dieting; several days of the most violent headache, returning every few days, hour-long vomiting although nothing had been eaten; the machine seemed bound to go to pieces, and I will not deny that I often wished it would. Great exhaustion followed, walking in the street was painful and there was great sensitiveness to light. Immermann treated for something like a gastric ulcer, and I expected bloody vomiting. For fourteen days I took solutions of lunar caustic,—nothing availed. I am now taking enormous doses of quinin. . . . I have continued my lectures and readings, interrupted only on the worst days when I was confined to bed. . . . I have planned a new sketch of my lectures for the next seven years." (Do.)

"For several months in an accursed crisis of stomach troubles which begin to shatter the very foundations of my existence. With difficulty I live from one day to another. Every week or two the physicians try something new. What headaches! . . . the burden of my special work, of itself enough, becomes doubly oppressive. . . . As things are I really can write no letters. . . . My literary work had of course to be given up, I am not able to write a line." (Do.)

"Who can say so definitely that my disease is migraine? Immerman has no such certainty, and himself says that he is only experimenting with the nerves since previous remedies were resultless. If this does not help, something new must be tried. Acidity oppresses me and everything except the tenderest meat, becomes acid; I am therefore convinced that the nerve hypothesis is wrong. Besides, headache in migraine

is one-sided, but mine as you know is not so. The torment in and over both eyes is great. God help Immermann, then will he help me. In the meantime—*dubito*.” (Do.)

“At Steinabad near Bonndorf, with triple modified diet and an experienced old physician. . . . With the greatest foresight and care, as a whole I am better. The quinin-cure continues.” (Do.)

“For weeks in the power of a desperate disease of the stomach and head.” (Do.)

“Two severe attacks, sending me to bed. The treatment at the institution was not sufficiently active and specific, as the doctors say.” (Do.)

“That I must renounce all writing work for a longer time [than seven years] becomes ever more clear to me.” (Do.)

“Like Immermann, Dr. Weil thinks I have a nervous affection of the stomach, which is always a chronic affair.” (Do.)

“It is not death that could most frighten me, but only a sickly life, in which one loses the *causa vitæ*.” (Do.)

“Relapses of my gastric disease.” (Do.)

“The conviction of the worthlessness of life and the folly of all aims oppresses me so heavily, especially when I am sick abed.” (Letter, 1875.)

“The chronic torments seize me two days or longer about every two weeks.” (Do.)

“I cannot doubt that I am the victim of a serious cerebral disease and that stomach and eyes suffer only from this central cause. My father died at 36 from cerebral inflammation. I may go even sooner. I have used several-hour-long ice-bags upon the head by Immermann’s advice and head-baths early in the morning and my utter exhaustion and bitter torments are somewhat relieved. But it is not even genuine convalescence; the secret misery is not ended and I am reminded of it every minute. . . . I live almost entirely upon milk,—milk and sleep are the best things now left me. If only the frightful attacks lasting days, would not return.” (Letter, 32.)

“Much suffering and bad outlook as regards my health.” (Do.)

"In Naples I consulted a most excellent and famous physician, Professor Schrön. One has the choice between six other German physicians." (Letter, 33.)

"No considerable improvement, although the last attack of yesterday was not so long, owing perhaps to a salve for my forehead, which Schiess had ordered." (Biography, 33.)

"He was sick in Genoa. Found the journey improved his eyes although he was allowed to write but brief notes. The winter passed very pleasantly with walks, lectures, and dictation. His health however remained poor, and he gradually came to the conviction that not even the south and freedom would give him back his health. Towards spring his eyes especially began to suffer and an unpleasant shimmering prevented him from writing and reading. He returned to Switzerland in May in order to undergo a 'cure' and to be in the mountains." (Do.)

"The mountains always have a good influence upon me, although I lie here in bed or drag myself about all day with pain. The thinner the air, the better for me. I have just begun a 'cure' with St. Moritz water which will take me several weeks." (Do.)

"It has been recommended especially for deep-seated neuroses. . . . My very problematic thinking and writing has always made me sick. So long as I was really a teacher I was healthy." (Do.)

"My power of resistance was at last broken." . . . "Violent headache."

The winter was begun bravely, for he had found an excellent physician and expected good results from his treatment. . . . "He is experienced, the son of a physician and about 40 years of age. I have confidence in born physicians." (Biography, 34.)

". . . But toward Christmas the old experiences, as in 1876, were repeated: headache and pain in the eyes became so severe and continuous that we did not know what to do. Part of his duties at the university were given up; later his

physicians concluded that frequent change of air would be the only method of alleviating his sufferings. He went to Baden-Baden and the spring found him so much better that he became confident and hopeful." (His sister.)

"Half-dead with pain and exhaustion. The entire week one attack after another." (Letter, 34.)

"Only with difficulty and as it were in a one-sided manner he seemed to drag himself along and his speech was often slow and halting." (Deussen, 34.)

"A bitterly bad Sunday of pain. . . . I was compelled to telegraph my nonarrival at Zurich and remain in bed. . . . One attack after another for a whole week." (Biography, 34.)

"I hate Basel more and more and shall quit it so soon as possible." (Postal card, 35.)

"A winter filled with misery." (Do.)

"At Easter he went to Geneva without finding any relief. Upon his return there was a frightful crisis, attack after attack of the severest headache and pains in the eyes, with day-long vomiting: all his patience and bravery were utterly exhausted. He seemed a broken, tired, aged man." (Do.)

"He appealed to the university to accept his resignation. He had lost all hope of being able to resist his disease longer." (Do.)

"My eyes gave me the greatest concern, they alone not improving and according to three authorities no improvement possible for them. Find me some one to read and write for me." (Do., 36.)

"By September he had wonderfully recovered and hope again filled his heart, but in 14 days he found the gardens so bad for his eyes that he could no longer hold out; the whole year of 1880 was the worst that he ever endured. 'A heavy, heavy load is upon me; during the last year I have had 118 severe attacks.'" (Do.)

"His sufferings gradually increased enormously, although he had no work to do and no book to write. Before this he had said: 'I dare not die, I have so much to do.' But now for

the first time his wretchedness was so extreme that he longed for death. He bade farewell to all those whom he loved." (Do.)

"With terrible energy however he gathered himself together, hastened to the south and began a passionate struggle with his disease and with relentless fate that threatened to annihilate him." (Do.)

"My existence is a frightful burden. I would long ago have thrown it off if I had not precisely in this condition of pain and absolute renunciation been making the most instructive tests and experiments in these mental and social things. This hungry joy in knowledge brings me to heights where I win the victory over all martyrdom and hopelessness. In a general way I am more fortunate than ever in my life, and nevertheless, continuous pain and many hours of the day a feeling like seasickness, a semiparalysis in which speech is difficult, alternating with attacks of rage, the last resulting in vomiting for three days and nights. I longed for death. Inability to read, seldom to write. To be alone, and to walk out, mountain air, a diet of milk and eggs. . . . Cold is hurtful to me. I shall go south in order to begin the life of walking." (Letter, 36.)

"I had in the last year 118 severe attacks; the slight ones not included. If I could describe them for you, the continual pain and pressure in the head, over the eyes, and that general feeling like paralysis from the head to the toes!" (Do.)

"Nearer death than life." (Do.)

"Cured, or at least on the road to cure." (Do., 38.)

"I myself am perhaps on the other side of the good and bad, but not of disgust, boredom, melancholy, and pains in the eyes." (Letter, from Venice, Do., 42.)

"My wish to winter once more in some German place of learning among friends and books—a wish that rises to hunger and torture—has always been wrecked by my health. But 'the day will yet come.'" (Do. 44.)

"A most violent and obstinate headache exhausted my powers. It increased to the highest degree of habitual painfulness until at one time I had 200 sick days in the year. The evil must be utterly of local origin and every sort of neuropathologic basis is wanting." (Nietzsche, quoted by Möbius, 44.)

In one of the last days of December, 1888, or in the first days of January (dates not definite) Nietzsche fell, near his lodgings in Turin, and could not rise again. A servant found him and led him home with much difficulty. For two days he lay silent and still on his sofa, when abnormal cerebral activity and confusion were evident. He spoke much in monolog, sang and played the piano loud and long, lost the sense of money value, and wrote fantastically to and about his friends, etc. Overbeck hurried to him and brought him to Basel, to the sanatorium of Professor Binswanger, the alienist, where the diagnosis, according to Deussen, of progressive, later corrected to that of atypical, paralysis, was made. His mother had him brought to Naumburg, cared for him until her death in 1897, after which his sister moved with him to Weimar. He died August 25, 1900.

According to Dr. Reicholdt the immediate cause of his death was pneumonia, with edema of the lungs. There was no autopsy.

Nietzsche's Personal Character, despite all the calumny and misunderstanding of many that have written of him, and despite the character of some of his writings, was one of exceptional purity and perfection. This is the testimony of all who knew him. In the agony of suffering, in the extremes of mental disease he showed, indeed, occasional hauteur, hardness toward friends and relatives, qualities that would scarcely be noticed were it not for the antipathies,

literary and critical, actuating the enemies of his philosophy and opinions. Without a hundredth of his physical wretchedness and irritation others have exhibited unblamed faults a hundred times greater. His sister writes of him :

“ At all events the word ‘ friend ’ for him spread a thick, brilliant, and illuminating covering over any beloved and honored being. He decked it out with all of his own best qualities and made of it a real work of art.”

Even Möbius says he was friendly, compassionate, sympathetic, and thoughtful of others. He was always of a bright and joking disposition, and was beloved by all who knew him at the many houses, hotels, and lodging houses in which he lived. He had at these places in later life the reputation of one who had given up his professorship because of his nearsightedness.

As a boy of about 15, to show his companions that some historical anecdote was not impossible, he took a bundle of matches, lit them in the palm of his hand, and held it extended while they burned.

In 1863, aged 19, he was greatly grieved by having been tipsy, and his disgust with smoking, drinking, “ Kneipe,” and “ Burschenschaft ” grew until, in 1865, he renounced them all for the rest of his life. His sister, in 1869, speaks of his “ musical voice, pleasing appearance, strong stature, noble face, brilliant eyes—‘ Götteraugen.’ ” She also says of him that she never knew him to be in a “ bad humor,” and that he

was the best of patients even during his years of paralysis. Seydlitz says his character was clear and pure as a mountain brook, and that purity and modesty gained from him a new worth. Because of the silly and nauseating attempt of Möbius to fasten upon him the stigma of "exogenous disease"—syphilis, a charge that appears utterly without justification medically, scientifically, individually, or socially—one must allude to the story of his fleeing horror-struck from abandoned women in whose society he was once accidentally led. Deussen correctly says:

"From all that I know of Nietzsche I believe that the words may be applied to him which Steinhart uses of Plato:—*Mulierem nunquam attigit.*"

As to his original intellectual vigor and startling strength of purely mental endowment, apart from its later affection through long wreckage of disease, the fact stands out with wonderful clearness in that at the age of 24 he was unexpectedly called to the professorship of classical philology at Basel. His sister says, in the midst of his greatest suffering:

"His disease was especially unendurable because it continued all day and permitted him but a few hours of sleep at night; despite his suffering his intellect kept steadily at work. He says of himself at this time, that 'in the midst of his martyrdom during an uninterrupted headache of three days together with exhausting vomiting of mucus, my intellectual clearness did not fail. I thought things cold-bloodedly through, which even in my more healthful condition was impossible to me.'" (35.)

Writing of this period at a later date, he said:

"All true symptoms of disease are wanting in me. Even in the time of the most severe illness I am really not sick. One will seek in vain in me for any trait of fanaticism. . . . One must have no nerves."

The Synchronous and Equal Suffering of Eyes, Head, and Digestive System, is the most striking peculiarity of Nietzsche's case, which singles it out distinctively from that of the others that I have studied. Rarely, most rarely, have I found such an equal resistance to disease, and such a combined affection. In the average system one set of organs will bear the brunt of the reflex, and will give away first. The fact shows the utmost extraordinary strength and perfection of his organism—a fact that is borne out by all the data concerning his life and illness. At times the attention of the patient or of his many physicians was directed to one set of symptoms or organs, but there is never any doubt that although the eyes complained always and often first, the brain and stomach were almost equally and severely and usually synchronously affected. And the intensity of the pain and morbid action were perhaps greater than any other man ever endured. All things considered no patient ever suffered more grievously, no martyr ever endured more intense and continuous torment. The pathetic tragedy of Nietzsche's life seems to me unexampled.

All Symptoms caused and intensified by Ocular Work, and relieved by Walking and Ocular Rest.

In every case of these *Biographic Clinics*, and in thousands seen in private practice the fact is evident that all the reflex symptoms, ocular, cerebral, neural, psychic, and digestional, depended accurately upon the amount of ocular labor, and were relieved precisely in proportion to the amount of walking or physical exercise done, or in other words, upon the rest given the eyes from reading and writing. In Nietzsche's case this relationship is as clear, and in order to make this manifest I feel compelled to copy so large a number—by no means all—of the passages which bring it out. Even at the age of 21, he complains of his handwriting, although all through his life this was of exceptional excellence and accuracy in the formation of individual letters.

"My intolerable handwriting, . . . and with it how my thoughts cease." (Letter, 21.)

"Pardon this stupid letter, but the violent pain in my head prevents all proper writing." (Do.)

Although he seems to have written a very clear and beautiful hand, he speaks with vexation of his handwriting and that his thoughts suddenly stopped with the effort of writing, "I cannot control myself as regards pen and ink; during the last four pages all my good nature has left me, and I can only note the driest of facts." (Biography, 21.)

"He was very musical, often inclined to adopt music as a profession, and while officially studying theology was more earnestly devoted to art and philology." (Do.)

"Lonesome walks." (Letter, 22.)

"So soon as my [literary] work was completed I flew to the Bohemian forest in order to bathe my tired soul in nature, mountain, and wood." (Do.)

"His energetic nature drove him to gymnastic and all sorts of sports, because he thought that this was necessary, more for himself than others, on account of his eyes." (Do.)

"Nature originally endowed him with a robust body; so soon however as he was no longer in possession of his primitive health and strength, he was compelled all the more toward struggles of the intellect more grievous and torturing." (Do.)

"Today, also, I can write no more." (Letter, 24.)

"Writing becomes difficult." (Letter, 26.)

"I read and again reread. . . . A long time ill and had to lie in bed, and even now have not fully recovered." (Letter, 29.)

"But my eyes—those obstinate, dangerous, and risky things—command me to stop, when I was just about to write you a good letter." (Do.)

"The weakness of my eyes permits me to congratulate you only in a few lines." (Do.)

"All this is little and poor, but alas, much too much for my eyes." (Letter, 30.)

"A laborious winter, working from 8 o'clock in the morning until 11 or 12 at night." (Do.)

"I write to say that I cannot write." (Letter, 31.)

"The detestable winter half-year is not yet past." (Do.)

"Had to fly away, . . . because I was compelled to take to bed for the second time." (Do.)

"The summer was heavier because of the eyes which often pain. I rise at 5 which does me good." (Do.)

In 1876 a friend acted as amanuensis and helper to him because of his bad eyes. Before his journey to Italy he spent five weeks in special treatment ("*Atropincure*") of his eyes. "About every eight days I make a 30-hour sacrifice to my health . . . my eyes forbid letter writing." (Letter, 32.)

"Even the condition of my eyes does not influence my regained confidence in myself. Shiess finds them worse; I need an amanuensis, that is the chief thing." (Do.)

"Complete rest is not so easily carried out." (Do.)

"Only since I have given up my lectures have I detected any betterment." (Do.)

"Improvement in health, . . . diversion and movement from place to place." (Do.)

"I cannot write, myself, but must use the pen and hand of my sister." (Do.)

"In snow, rain, storm, and sunshine wandering about, and therewith I have found myself." (Do.)

"Six days in Geneva rich in many experiences . . . and mastered sickliness and whimsicality. . . . I found once more the good conscience." (Do.)

"Only a postal card, my eyes permit nothing more." (Do.)

"I breathe and see coming health." (Do.) (From Rome.)

"I climb the mountains to run away from my headache." (Do.)

"My intolerable headaches, for which no treatment has done any good, forbid my writing. The exception I am now making to the rule must be expiated." (Do.)

"My sister reads to me a great deal because reading and writing is hard for me." (Do.)

"It hurts me to write." (Do.)

"Bettering health." (Do.) (From Sorrento.)

"Slow improvement. But I cannot read." (Postal card, 33, Sorrento.)

"My eyes have almost suddenly become so bad that I am nearly unable to read at all." (Letter, 33.)

"My eyes are worse, my head not better." (Do.)

"My health remains bad, very fickle, the eyes a little better." (Do.)

"I felt well one day and I wrote five letters, and the next day was confined to bed; the last 15 days have been pitiable." (Do.)

"But the eyes say, stop!" (Do.)

"Your novel twice read; . . . between times I vacillated with my health to and fro, and yesterday, lying abed, etc." (Do.)

"My brain and stomach is ugly with overfilling. Much reading dulls the brain frightfully." (Do.)

"In spite of it I do not write, and I wonder why. This reason just occurs to me: The hand which writes the entire day, and the eye, which sees white paper become black from early morning till evening—both demand change or rest." (Do.)

"The 100 books which are before me on the table are so many forceps which burn up the nerve of independent thinking." (Do.)

"I dare not write any letters. . . . Next week I go to Heidelberg and Frankfurt to see physicians:—electrotherapy recommended." (Postal card, 33.)

"Do not blame me because I write no letter today." (Do.)

"My health is bad, head and eyes refuse to work more than ever. I had therefore to dictate." (Letter, 33.)

"My eyes will not let me answer your letters." (Do.)

"Letter-writing no more . . . weakness and deeply shattered health. . . . A hermit-life as of an old man. . . . In spite of this I am courageous; forward, excelsior!" (Do.)

"I must have the blue sky above me when I attempt to gather my thoughts. By a mountain brook overhanging an abyss he said, Here I love to lie and have my best thoughts." (Deussen, 33.)

"In his house, or as he said, in his hole." (Do.)

In breaking up housekeeping he selected two large trunks full of books to take with him upon his journey.

"With the departure from Basel the worst condition of his health was at an end, but he always expected it to return. Half blind as he was and so exhausted, we travelled much about. In three weeks he was considerably better. . . . Later he was accustomed to say 'the Engadine gave me back my life again.'" (Biography, 33.)

"Despite his bad health he completed his book by the aid of his friend as an amanuensis." (Do.)

"My health is better. I am tireless in walking and in solitary thought." (Letter, 34.)

"Instead of recreation at the end of the week he worked with inexhaustible zeal at his new writing." (Do.)

"No letter has been possible for weeks." (Letter, 35.)

"In order to venture on a letter I must on the average wait for four weeks until the permitting hour arrives,—and then afterwards I must atone for it." (Letter, 36.)

"I have brought a big basket of books with me up here." (Letter, 39.)

"From year to year my eyes permit me less writing." (Letter, 40.)

"I am suffering very much with my eyes and long for the shadows of the streets [of Venice]." (Letter, 41.)

"My three-fourths blindness compelled me to desist and to fly to Rizza which my eyes have learned by heart. There is more light there, it is true, than in Munich. I know of no place except Rizza and the Engadine where I am still able to use my eyes for a few hours a day. But this winter will probably see an end even of that." (Letter, 44.)

"Dog's weather in which my health is wrecked." (Do.)

"For eight days the sky continuously overcast, cause enough to warrant a deep nervous exhaustion with relapse of my former sufferings. I have never seen worse weather than this here, precisely when I have journeyed in order to escape bad weather." (Do.)

"The weather is extremely changeable and is not the same for three hours. My health vacillates with it." (Do.)

"His rule was: The method of Julius Cæsar against illness and headache: frightful marching, the simplest living, uninterrupted life in the open air, continuous hardships." (His sister, in *die Zukunft*.)

Great despair in 1888, "almost the prey of dark determination." "The awful labors of 1888." (His sister, in *die Zukunft*.)

"In my eyes I have a dynamometer of my entire condition." (Letter, 44.)

"In fact I have only a few hours of each day only a very few hours for reading and writing, and when the weather is gloomy, none at all." (Do.)

"Health has returned with better weather." (Do.)

"The most incredible tasks easy as play; health like the weather, daily returning with boundless clearness and certainty." (Do.)

"The history of my spring-times for fifteen years at least was always one of horror, a fatality of decadence and weakness. Places made no difference. No recipe, no diet, no climate could vary the essentially depressive character of this season." (Nietzsche, quoted by Möbius, 45.)

The Ocular History.—In the biography his sister writes as follows:

He suffered much from coughs, colds, and hoarseness during his boyhood and youth, and from his twelfth year, his eyes caused him great trouble. But the examinations of a famous oculist in Jena proved that there was no inflammation, or abnormality of any definite kind except that the ball of the eye, as in all myopes, was highly rounded. "I think that this myopia may have been caused by somewhat too dark rooms during childhood, for I am also near-sighted. While a pupil at Pforta he complained very much of the very bad lighting of his class room and chamber; at all events his short-sightedness increased very much. Twice, also, he suffered for long periods from headache caused, as it was believed, by over strain of the eyes. One did not notice the large, beautiful and brilliant eyes because they were never inflamed. In his first year at Pforta he grumbled very much at the fact that so little attention was paid to the eyes, and himself as student, undertook great care of them, sparing them as much as possible, although owing to his excessive desire for knowledge I do not think he succeeded very well."

His sister thinks that probably to his short-sightedness was due the accident that occurred during his military service, and afterwards a certain imprac-

ticality in the ordinary affairs of life, although in her preface to the second volume she combats the prevalent idea that would explain mental and spiritual greatness upon pathologic grounds.

"The examining surgeon refused to pass him for military service on account of his great near-sightedness, although in other respects he was strong, healthy and sound. A revision of this order, however, was later made whereby those who required No. 8 spectacles were passed if otherwise sound and healthy. Although this number of glasses was altogether too weak for his eyes, it was what he had recently been wearing. His eyes were not examined, except to judge from the glasses he had been wearing. He was therefore entered for service." (Biography, 33.)

"He was exceptionally enthusiastic and active in carrying out his severe military duties." (Do., 34.)

"Graefe found him wearing $\frac{1}{8}$ [*i. e.*, 5 D. lenses] before his military service, and that these were too weak, so that he gave him instead $\frac{1}{4}$ [*i. e.*, 8 D.]. Later Nietzsche needed stronger lenses, from 7 to 10 D., but only for reading and writing. To this defect was added insufficiency of the interni." (Personal letter, 1903, from Dr. Vulpus, who attended Nietzsche for ocular disease in 1899, and 1900.)

In March from Gersdorff he wrote:

"'It goes somewhat better with me after a long and painful period of ill-health.' He returned for the new term at the university feeling much better and full of hopes, but the condition of his eyes remained unchanged. Professor Schiess found his myopia and ocular weakness increased, but Nietzsche said that the disease of his eyes, which at times threatened blindness, was only a consequence and not a cause, so that with increase of vital energy, even his visual ability also increased." (31.)

"Time, and especially eyes, fail me to thank you. It is now floodtide with me in all necessities which my bit of eye-power entirely absorb. You fortunately do not understand the physiologic condition. I have to use, for reading and writing, No. 3 spectacles. If my three ophthalmologists had been right I should years ago have been blind." (Letter, 44.)

"The spectacles preserved by his sister, are 'No. 3,' having also prisms bases in. These were used only for reading." (Personal communication, 1903, Frau Förster-Nietzsche.)

"After his paralytic attack in 1889, he never wore any glasses, and never read and wrote." (Do.)

Möbius says that the examination at the Basel Insane Asylum after his attack showed that he had convergent strabismus. In that of Jena in 1890 the right pupil was found dilated, the left myotic and irregularly so. All reactions were preserved in the left, but in the right only convergence reaction.

"In 1899-1900 he had an obstinate relapsing iritis of the left eye; Dr. Vulpius finally effected a cure. The right pupil was wider than the left." (Personal communication, 1903, of Dr. Vulpius.)

According to Dr. Möbius Professor Graefe of Halle told him: "Your eyes are both a clear and an evil example of the extent to which great students can ruin their eyes. I should advise you not to write or read a word for years. But I might just as well forbid you not to breathe."

Möbius contends that his myopia was inherited, as his father was also nearsighted, and his sister is so. One may accept this theory or deny it, or accept it as in part true, and still emphasize a number of deeper-lying questions. But the most fundamental of all errors made by the majority of Nietzsche's oculists and gen-

eral physicians was excusable, perhaps, thirty years ago, but is utterly beyond pardoning in those who treated him in late years. This blunder, for such it must be called, is manifest in the monograph of Professor Möbius, issued in 1902 in which he says:

"Since shortsightedness causes no pain, it remains a question of atypical migraine."

And again he repeats:

"Myopia does not cause migraine."

In these sentences is revealed the fatal defect of European ophthalmology, which today ignores astigmatism,¹ almost entirely, and especially myopic astigmatism. Astigmatism exists in myopia as constantly as in hyperopia. It may not and usually does not cause the severe reflexes and morbid results as in hyperopia, but it may do so and in many cases does do so. In Nietzsche's case it is astonishingly clear that it did. That astigmatism was present is demonstrated in the following extracts from letters written by Nietzsche in 1876:

"At first I could not write, and then came the eye treatment, so that I am not allowed to write for a long time. In spite of that I read your two letters,—perhaps I read them too long."

"My eyes are being treated with an atropin-cure, and they will not allow any letter-writing, even if it were possible, of which I doubt."

¹ And also anisometropia.

All oculists, of the American type at least, will readily see that cycloplegia induced in highly myopic eyes without astigmatism does not prevent ability to read and write. Such oculists will also recognize that atropin in nearsighted eyes will not "cure" myopia, nor will it lessen the eyestrain and its reflexes any more than cessation of reading or writing would do. More certain is the inference that the lessening of his visual acuteness and power to read with atropinization was due to the fact that it paralyzed his accommodation power to neutralize partially his existing astigmatism. One wonders if the *Atropin-kur* is still carried out today upon the million or more myopes of Germany.

Nietzsche's myopia also increased very much during his short life, and this as we now know was the natural and inevitable result of overcorrection of myopia and noncorrection of his astigmatism and anisometropia. Another astonishing fact is that he wore high power myopic lenses for reading but not for distant vision, and this again proves how incorrect his glasses were. Finally one must notice the odd contradiction that he wore prisms bases in for insufficiency of the interni, and that when examined at Basel he had convergent strabismus. The acute attack of cerebral paralysis may however serve as a partial explanation. In spite of the fact that pain in his eyes was the bitterest complaint during his adult life it must not be forgotten that there never was any inflammation except the iritis

in his last year. Considering the lack of proper correction of his eyestrain, and the terrible abuse of his eyes, that Nietzsche did not become blind from malignant myopia is indeed a wonder, and a tribute again to the magnificent powers of resistance of his organism.

Colds, Influenza, Rheumatism, etc., afflicted Nietzsche as much throughout his life as they did Mrs. Carlyle, and other sufferers from eyestrain.

"He suffered much from coughs, colds, and hoarseness, during his boyhood and youth." (Biography.)

"From January to autumn, 1862, aged 18, he suffered greatly from colds, hoarseness, and frequently recurring pains in the eyes and head." (Do.)

"In 1863, aged 19, he was seized with severe cold and was confined for a long time to bed." (Do.)

"During the entire year of 1872, aged 28, his health was bad; it began with a severe cold and a week-long condition of grippe." (Do.)

Further citations need not be made to illustrate the frequently noticed connection between eyestrain and inflammation of the mucous membrane of the upper air-passages. The probably self-made diagnosis of "rheumatism" illustrated in excerpts on a previous page also illustrates the observation that muscular pains, anesthetics, numbness, temporary pareses, etc., are often forthcoming in severe eyestrain, and disappear at once upon its relief.

"*Migraine*" is a word often as loosely applied to "atypical" diseases, as "biliousness," "nervous dys-

pepsia," and many such used both by physicians and laymen. These words appear to satisfy many otherwise intelligent people, and by applying them to a set of symptoms there is a seeming belief that the disease is explained. Learned medical articles have been and continue to be written on "migraine" with no trace of curiosity or care as to the cause of that mysterious malady. Labeled with a name its nature and etiology no longer concern. In different treatises upon it by equally great authorities the most glaring contradictions and illogicalities constantly reappear. In many the eyes as a cause are mentioned only incidentally and, as it were, as a routine sacrifice to or flattery of encyclopedic knowledge. Möbius thinks that Nietzsche's migraine must have been "inherited"—that favorite word for inability to explain—while at the same time he had glioma of the brain which caused his wrecking. Again he says that his migraine was "due to his mental activity. It was always the same; the fresher he was the more passionately he worked, and the more he worked the more he brought on the return of the attacks." But he admits there was no trace of "progressive" or "atypical" paralysis prior to 1875. And yet how much the man had endured for years previous!

In the textbooks hemicrania is put down as a synonym of migraine, and yet the fact that his par-

ticular migraine was not one-sided struck Nietzsche's attention and caused him perplexity.

In all that has been written by himself or others concerning Nietzsche's illness the old but ever noteworthy wonder appears at the sudden changes from the most violent suffering to the most complete relief and apparent health. In his case these lightning-like changes are so remarkable that they confuse himself, friends, and physicians, as might be illustrated by many quotations. His sister thinks he was as well, from 1882 to 1889 as other people, and that his complaints were due to psychic suffering, loneliness, non-recognition, etc., and yet he himself writes that he had some 200 sick days within one year during this time. She also says that during these years his headaches were rather a *Benommensein* (stupor) for which he walked a great deal, and that he had on the average only from seven to ten migrainous attacks a year without vomiting. Once more she says that in these years he only had eye-troubles, not bodily suffering, and that these consisted only of *Flimmern* and poor vision, adding that these symptoms were due to intense overwork of the eyes. "His tired eyes produced his *Benommensein*," for he was most actively writing and reading proof all this time.

It must be remembered that during this time he daily walked a great deal, developing his aphorism-style, by thinking during his walks, and by jotting

down his thoughts as they occurred to him in his notebook always in hand. Although intellectually keeping up the strain the relief to his eyes often lessened the general and especially the digestional reflexes. In a letter to me his sister says that from 1881 and 1882 he thought himself cured; that his headaches were changed in character, he had much less vomiting; and he had not to go to bed with headaches—except in 1883. But all agree that his excessive application brought on his “sudden” paralysis in 1889.

Instead of “migraine” let us call his disease by the old-fashioned popular name of sickheadache, and add that the oculist who today is not able to cure 99 cases out of 100 of this common and terrible disease by relief of its causing eyestrain is—not so expert as he should be.

In an article in *Die Zukunft* (No. 14, vol. viii, Jan. 6, 1900) Nietzsche's sister, concerning her brother's illness, writes the following astonishing paragraph:

“His physicians could never determine whether his headaches were caused by his ocular disease, or whether his weak eyes were the result of his cerebral disease. Four physicians treated him in 1878-79. Two said that his headache was the cause of his trouble and two heaped his entire sufferings upon the condition of his eyes. One of these was Professor Graefe. It was by Graefe's advice that my brother gave up his professorship because reading and writing the Greek letters of the alphabet was particularly harmful. Later as the condition of the eyes bettered we have usually called his disease migraine.”

Thus by the irresistible logic of the facts two physicians, long ago, were driven to the conclusion that the true cause of this man's awful sufferings was eyestrain. Of course they could not or did not, suspect that it was astigmatism, and they perhaps hardly dared to include in the results the vomiting and digestive reflexes always bound up with eye-work and other symptoms. One would like to know the names of these two physicians, and while honoring them, express the hope that they and their aftercomers will examine into the history of astigmatism, and the systemic effects of eyestrain.¹

"The Horrible Earnestness."—Driving his organism with reckless fury to its special work of erudition the young professor found that "a horrible earnestness," "a nervous excitability" seized him in everything he attempted to do. In almost every case of severe eyestrain there is a similar experience. I have found it

¹ In 1874 the great eyestrain sufferer Wagner wrote to Nietzsche:

"My wife will soon write to you, she suffers from her eyes; without her I cannot get on. Overbeck alone delights me because he wears no spectacles."

In 1879 the great eyestrain sufferer Nietzsche wrote a letter in which occurs this sentence:

"You will have heard from Overbeck how extraordinarily good has been the effect of his stay at St. Moritz, so that his fearful headaches since then have only returned in slighter degree. . . . Noteworthy improvement, lasting now five weeks."

in nearly all the cases of the literary workers so far studied who had great eyestrain. Carlyle has written:

"There is a shivering precipitancy in me which makes *emotion* of any kind a thing to be shunned. It is my nerves, my nerves."

"My work needs all to be done with my nerves in a kind of a blaze, such a state of body and nerves as would soon kill me if not intermitted. I have to rest accordingly, to stop and sink into total collapse, to get out of which is a labor of labors."

"He wrote 'with his heart's blood' in a state of fevered tension," says Froude.

"Work is not possible for me except in a red-hot element, which wastes the life out of me."

This feverish intensity, I suspect, dictated the life, morbid mental activity, and character of Nietzsche's writings to an amazing degree. He said of himself that "an unendurable *spannung*—tension—lay upon him day and night." Some one has spoken of it as a "subterranean fire." Another phrasing of this condition is shown in a letter written in that ominous year 1888:

"I have lived through so much, so much willed, and perhaps attained, that a certain power is necessary in order to get loose and away from it. The vehemence of the interior vibrations was frightful. That this was seen even from a distance may be learned from the epithets of German critics—'eccentric,' 'pathologic,' 'psychiatric,' *et hoc genus omne*."

A friend, Sandberg, writing in 1899, puts it this way:

"He wrote once that he had body and soul of such a nature that he could suffer with both at once. 'Nothing,' he said, 'tortures me more than when the fire burns me on both sides, internally and externally.'" *Die Zukunft*, No. 32.

I have elsewhere spoken of the physiologic cause of this morbidly feverish intensity of mental activity. It appears to me the inevitable irritation due to severe eyestrain. Nietzsche also thought of suicide. Nietzsche produced within twenty years sixteen volumes, all written by himself in small clear handwriting, all the result of independent philosophic and original thinking, besides several other volumes of technical philologic studies. He was moreover a busy, conscientious teacher and lecturer.

The Influence of his Disease upon his Character and Writings is everywhere painfully manifest. Nietzsche was seized with an enthusiasm for Schopenhauer and his works at the age of 21. With greater intensity his devotion to Wagner and his music, I gather, was turned to morbid dislike by the influence of diseased cerebral activity. Deussen, I feel, is in error when he writes that

"A deeper cause lay at the root of Nietzsche's resignation of his professorship in 1879 than his 'combined diseases of the nerves of his eyes, brain, and stomach.' The philologic profession of teachers, like a coat, became too small for him, etc. His internal unrest, etc."

But if so, it is an error which only extends the pathologic to the deeper activities of his mind. How far

his cerebral irritation was responsible for his "aristocratic anarchy," his occasional lapses into egotistic disdain, etc., would be impossible to gauge. It surely was not wholly inoperative. Stringency, hardness, radicalism it certainly helped to produce. Möbius thinks the *Zarathustra* would not have been written without the morbid cerebral irritation. It appears almost certain that the aphorismic form of much of his later writing is explained as the result of the manner in which he was forced to do his literary work, *i. e.*, by thinking and note-making while walking. The serious reflexes to eyes, head, and digestive system, which were induced by writing compelled him to collate these notes with the least overworking possible. Hence also result the growing contradictions and illogicalities, the discreteness and want of transitional, connecting, and modifying sentences.

A number of degenerates, Nordau especially, have written foolishly of Nietzsche's "degeneracy," his "sadism," etc. The inappropriateness of such silly charges is amusing or disgusting, according to the point of view of those conversant with Nietzsche's character and writings. The mistaken standpoint of such a critic as Möbius may be suggested by his remark that friendship in the physiologic sense is purposeless and that it rests on perverted sexual love.

Nietzsche was surely a very sick man during the twenty years of his working life, but none ever made a

more heroic battle for health than he. Health, he contended, is always the basis of beauty and virtue. If his pessimism was due to his disease, one should not forget his own words :

"I made a philosophy of my will to health and to life. The year of my greatest loss of vitality was the year in which I ceased to be a pessimist. The instinct of self-preservation forbade the philosophy of despair." (Nietzsche.)

It is but natural that the subtle and malign influences of his suffering should weave themselves into the very texture of his philosophic writings. One has said of him that a big volume could be made of excerpts from his works concerning health and sickness. In this connection one may not overlook that in the fateful year of 1888 he also wrote of the *Umwertung aller Werthe*.

After the Attack.—When brought to Basel he weighed 165 pounds, was not neurasthenic, maniacal, or melancholic, and was without imperative ideas. Speech was permanently lost from the day of the attack, and memory nearly entirely. He seemed to understand what was read to him, and enjoyed music. There was much gaping or yawning with cramp which sometimes made him utter cries of pain. This was better after the move to Weimar. There his chief pleasure was to enjoy the view from his house, in silence and reverie. Möbius makes a strenuous effort to bring the symptoms of the patient within the con-

finds even of an atypical case of paralysis, confessing that real cases differ far more than the authorities and textbooks make manifest. Especially does he acknowledge this to be true in Nietzsche's case. Professor Binswanger says important symptoms are wanting, notably the omission of letters, even in the latest writings. One feels like smiling assent to Frau Förster-Nietzsche when she coolly says that by the term, *atypical paralysis*, nothing or not much is implied. Möbius's gratuitous assumption that syphilis was the cause of his collapse is without warrant and is contradicted by every fact of his life, character, and illness. It illustrates the tendency of ultra science to become nonscience and even nonsense. That chloral, as Overbeck thought, contributed to the final breakdown seems to me extremely doubtful. Morphin he took only once, but chloral was used in large quantities prior to 1889, for the terrible sleeplessness which tormented him as it does most eyestrain sufferers. His sister thinks chloral simply made him drunk. Is it not clear that the so-called sudden stroke in 1889 was the more noticeable effect of thirty years of cerebral insult and disease, and that the real mystery is that it had not come long previously? What takes place in the mechanics of cerebral morbid physiology, in such cases, is of course still unknown to us in any scientific sense, and we often make our ignorance more ridiculous, at least more dense, by our pathologic satisfaction

with nomenclature and picture studies. From whatever point of view we look, personal, medical, social, literary, or philosophic, it is true that Nietzsche's life was both a tremendous defeat and a magnificent victory. More emphatic is the truth, however, that whether victory or defeat it was an awfully pathetic and an almost unrivalled tragedy.

EYESTRAIN AND CIVILIZATION.

CHAPTER XI.

EYESTRAIN AND CIVILIZATION.¹

THE importance of the organ of vision in every moving animal is shown by the fact that the embryologic force, or, as I prefer, the Biologic Architect, with the foundation of the organism, at once begins the construction of the eye. It is not a question of days, but of hours, when the making of that all-important organ is begun as a differentiation of a part of the wall of the primitive cerebrospinal rudiment or medullary plate of the embryo. A trout embryo is first seen macroscopically by means of the massive pigment-heaping of the eye, that is larger than all the rest of its body. The common barnacle (*Lepas anatifera*) is well outfitted with eyes while it swims about, but when it attaches itself to the rock for the rest of its life the eyes atrophy. The mechanism of the finished eye of the vertebrate is of incomparable complexity and variability. A hundred evidences are strikingly manifest, all showing that the entire biologic process, so far as it pertains to motile organisms, is dependent upon the

¹Read June 19, 1903, before the Academy of Medicine of Cleveland, Ohio, and published in *American Medicine*, October 10, 1903.

function of vision, and every act during the life of those organisms is in fact dependent upon the accuracy of vision and of its instant relation with every other mechanism of the body. Without such a perfection of visual function no animal can get food, preserve itself from enemies, or maintain itself in the struggle for existence.

Not only his physical existence is thus dependent upon seeing, but the intellect of man, and all resultant civilization is literally a product of vision. The greatest victory of humanity, the one thing that has alone made all other conquests possible, is the alphabet. It took almost numberless generations to construct this great *sine qua non* of civilization, and as all know, the letters of the alphabet are the conventionalized images of things seen. All thinking is in pictures or representatives of them. The psychic thing, of course, preceded its tools, but without the eye there could never have been vertebrate beings on the globe.

There is no way so good to picture—again to picture—the essential mechanism of the external organ of sight as to suppose that a blind man should have millions of tiny fingers and that he should hold them up to a scene—again a picture!—like the sensitive plate of a photographer's camera. If a figure, a square, a circle, star, etc., made up of warmed iron rods, should be laid upon those million fingertips, the blind man could tell its shape and size by the warmth he would feel in

his fingers. The objects of the external world reflect the warm rays of sunlight from themselves upon the million fingertips of the retinal rods and cones in precisely the same way. And back from each fingertip runs a nerve for transmitting the impulse to the mysterious brain center where nerve-impulse is made into sensation. We must also remember that the crude material out of which the eye creates color and light is nothing but ether-waves slightly varying in length reflected from the different parts of objects to be photographed on the retina; these ether-waves are about one fifty-thousandth of an inch long, and from 412 to 790 millions of millions of them strike the retina every second.

The incomparable delicacy of the process, the almost infinite slightness of the light-and-color stimulus, is also not appreciated. The retinal fingertips must respond to a stimulus lasting less than a thousandth of a second, and with but a millionth of a millionth of the energy, for instance, of the sound-waves to which the ear responds. Conceive, or, rather, attempt to conceive, the subtlety and fineness of the retinal and entire ocular mechanism which responds to such a slight stimulus as that. When one tries to think of it, one gets a hint, and only a hint, why it is that in death from starvation there is no stored nutriment, *i. e.*, no fat, in any part of the body except in the orbit of the eye, the blanket of fat about the all-important retina. The

higher organism, biologically, that is without an eye is not worth life!

And not only an eye of some kind or of any kind, but one whose mechanism is as unerring as the light ray it receives; one in instant connection with every other function of the body, especially of motility; one upon which the safety of the body and life depends a thousand times a day. There is a true passion of accuracy in its nature that is marvellous. The almost unconscious avoidance of objects in their way, by horses, and other animals, the superb perfection of eye and organism of a bird thridding through brush or alighting, the precision of the athlete, the juggler, etc., such things, it is forgotten, are all first, and far more excellencies of eye than of muscle and nerve. I have read somewhere of the astonishing feat of monkeys running over the tops of African forests faster than a horse could run in the open, and looking back at their pursuers, while dashing from tree to tree. The ability of the ocular mechanism to make all of that possible fills one with awe of the ocular mechanician.

Let us now carry the thought on from physiology to pathology. Let us remember that in all nature there is no perfect organ or organism. No leaf of the numberless billions in the forests of the world is faultless. No face is symmetric, no finger perfect. And so, speaking absolutely, no eyeball is mathematically or optically perfect. Great physiologists and mathematicians have

marveled at the optical imperfections of all eyes, but without any care to correct them. And almost no astronomers or microscopists, profoundly careful as to the perfection of their transits or objectives, have even cared to ask about the optical imperfections of their own eyes. We have at last begun to observe them. The canalizations of the planet Mars are finally found to be due to optical defects of the astronomer's eyes.

Everybody knows that the success of photographing depends upon definition of the image, the mathematic precision with which the picture images the outlines and the proportions of the fact. This definition is easily disproportioned or blurred. If the photographic camera is only an inch in diameter the securing of accurate definition of all objects in a wide field of view, and situated at all distances, becomes at one time a physical impossibility. And when one sensitive plate has been exposed it has been spoiled. But nature in the normal and emmetropic, so-called emmetropic, human eye has come as near as possible to creating a self-adjusting mechanism which shall secure definition of all scenes, far and near, and has also made the retina a self-resensitizing and single plate, good for all "exposures" at the rate of say a hundred thousand a day. As bad an optical instrument, as much of a makeshift as the eye may be, it is the most perfect of all biologic mechanisms, the greatest art-product of life. And yet after all the count has been made of its necessary and inobviable

imperfections there is not, even optically, a perfect pair of eyes. The one pair that had been pronounced "mathematically perfect" by the most expert testimony, I demonstrated had myopic astigmatism, and this defect caused repeated and severe subconjunctival hemorrhages.

What are the optical defects of human eyes that produce malfunction and diseases local and systemic? The camera-eyeball may be too long, or too short to give perfect definition of the image, or the cornea may be abnormally curved, producing distortion and disproportion of the image. If the eyeball is too long there is myopia, and if its fellow has the same degree of over-length, no strain or attempt at strain can be made by the eye to neutralize this, and there are no evil results of a reflex kind. The person so handicapped simply cannot see well at a distance, and in our civilized life no bad results follow if the defect is not increasing, excepting that certain occupations cannot be pursued without glasses. But not one pair of eyes in a thousand has the same degree of myopia in both eyes, and at the same time is without corneal malcurvature (astigmatism), so that some eyestrain, of a low degree at least, exists even in myopic people. But it is inconsiderable in comparison with the pathogenic results of the defects which demand constant and morbid innervation of the compensating and accommodation mechanism. The retinal image in myopia, and even in myopic

astigmatism, may be far worse in definition than that in hyperopic astigmatism, but as no effort can be made to neutralize it, the pain of morbid and excessive effort is usually avoided, and the eye alone is harmed, and the person limited in function.

When the eyeball is too short the image is poorly defined, except when the ciliary muscle can temporarily give better definition. If both eyes have an equal degree of over-shortness then, up to a certain degree, and for a certain length of time the compensatory mechanism can overcome the trouble. But as no one of the schoolboys who have tried it can hold his arm out straight for ten minutes, so no ciliary muscle can compensate for high defects, or for low ones long at a time without resting. But the over-shortness of both eyes is hardly ever alike, and almost never without some astigmatism.

Then astigmatism, or malcurvature of the cornea, in the vast majority of cases, exists in some degree in the eyes, and over this defect the compensating mechanism has almost no power, and in a sphincter muscle like the ciliary muscle, two-sided action even of a low power, is, of course, essentially morbid. I have elsewhere described twelve mechanisms by which the same spot of the retina is relieved from a constant stimulus every instant. I should have shown that this accommodation and muscular tiring is a thirteenth, so that even this morbid fatigue seems designed to prevent greater harm

by a lesser, and demonstrates the need of the prevention of severe or continuous use even of perfectly normal or emmetropic eyes.

If the incorrectness of measurements of the camera eyeball is as great as one three-hundredth of an inch there is a lack of definition of the retinal image. To overcome this the eyes in hyperopia and astigmatism must struggle ceaselessly. Both retina and muscles are tired by this effort to neutralize; persistent innervation, coupled with abnormal action of muscles, is impossible and harmful, as every physiologist, every schoolboy even well knows. They know it leastwise of other muscles, but they ignore it of ocular muscles. To this complication of defects must also be added the frequent presence of imbalance of the external ocular muscles, twelve of which must act in fine adjustment and harmony to keep the two eyes properly directed upon a given object at any given instant. Another important error is that the evil reflexes, except in the case of the developing criminal, are the worst in the low defects, those that the eye can overcome by intense effort, but only for a short time. A third of a diopter of asymmetric astigmatism is a hundred times worse for the general system than high defects. The high defects produce criminals, or ruin the eye itself; the low defects, unrecognized by bunglers, produce the thousand morbid reflexes.

The chances thus grow more and more certain that no pair of eyes will be optically and muscularly perfect, but these chances are tremendously increased, becoming as thousands to one, when it is remembered that evolutionally the eye was developed under the sole need of seeing distant objects from say three feet to the horizon clearly. But now comes civilization in the last 300 years, and demands of the eyes a new work for which the history of millions of years has made no demand, and for which the eye has been outfitted with no mechanism. Printing, sewing, schools, and handicrafts cannot be carried on even by normal eyes except through persistent and abnormal functions. These excessive and morbid demands made upon the unfitted mechanisms of the eye thus tremendously heighten the difficulties preexisting and constitute the inobviable source of eyestrain with which civilization has henceforth to deal with all the seriousness which disease may command and science can consider. The "exaggerations" of the most enthusiastic "exaggerator" that has so far arisen cannot equal the importance of the awful facts. Brutal indifference and ignorance may not longer continue the cynical smile at the "exaggerator."

A great and famous "ophthalmic surgeon," for whom I have a proper respect, told me he had examined large numbers of patients who complained of the same troubles as Darwin, Wagner, Parkman, and the rest, and he found that they had no optical defects

whatever. I answered that I had never seen a pair of eyes with no ametropia. I could not tell him that he had never tested a pair of these eyes by accurate and scientific methods, and that the refuse of his office was the best material for all the refractionists of his own and adjacent cities. I could not say to him that with his mental makeup no refraction, mathematically correct, was possible; that conscience, scrupulous carefulness, and keen intellect were necessary to do such work, and a painstaking subtlety in searching out the slight and long-continued causes of malfunction and of organic disease. I did tell him that all history is full of instances of the failure of the official leaders or representatives of religion, art, and science to recognize the new truth which finally supplanted the pitiable truth they stood for. It is the law of life, seemingly, but what an expensive one! Beware of officialdom in all its works and ways, and in any walk of life, but especially in medical science. In ophthalmology today it will often know nothing of the greatest truth; the most wonderful alleviator of human suffering. The blindness that is blind to it is the most amazing illogicality I know. In nearly every city of the land there are quiet, almost unknown refractionists who are making great practices, who are doing far more good to their fellow-men than the nationally and internationally famed presidents of all the medical societies. It pleases some of these great and famed ones to ignore these quiet men

and to belittle their work, but the sin of doing so will some time become clear. There is a perfectly sound reason why the search for success and the attainment of it kills the love of new truth. Even in the few and best instances fame and presidencies and LL.D. degrees only come as rewards of what has been done. Then the poor recipient of popular favor is interested only in this past truth, plus himself and his connection with it. Patients' lives are sometimes mere pawns in the game for success. But in the vast majority of cases, as we know, the presidents and LL.D.'s secure the coveted honor after long and careful "still hunts" for it, and the secret plotter unconsciously kills the only thing that makes the reward of any value, *i. e.*, honor of self and the spontaneous honor given by others. It is an open secret nowadays that the college conferring the degrees called honorary do so for their own sakes, *i. e.*, to get honor while seeming to give it. Their motive is to attract attention and to advertise themselves, and to get endowments. But as an astute observer said of marriage, it is a game that two can play at and neither win. Neither of the schemers gets honor, because neither is honorable. In refusing such a degree in his old age, Spencer told the honorers that it could have been of great use to him when he was young and striving for the recognition of his truth, but that it was now useless to him. Knowing he was not an erudite man, Cleveland, greater than erudition

could understand, also refused a false degree. Truth bids good-bye to the hunter and parader of the LL.D. degree.

The sooner the scoffer is silenced the better, and the sooner the role of eyestrain in civilization is recognized the better for the nation, and the greater its progress. How slow, how amazingly stupid we have all been in the recognizing is shown by the history of the finding of the pathogenicity of astigmatism. Clearly pointed out over 25 years ago, and demonstrated since then by proofs offered by a hundred clinicians, the great body of physicians and even of ophthalmologists of the world, especially of the European world, still ignores it. Pick up the programs of the highest official ophthalmic societies and notice how the whole subject of eyestrain is almost utterly ignored. In the great national and international medical societies it is usually not even mentioned. In our best and latest textbooks on general medicine the subject is not recognized, and the conditions which make the diagnosis and cure of these ocular and reflex diseases are not put in practice. There is a fine book written by a most capable man, bearing the date 1903, devoted to the teaching of the prevention of disease. It speaks well and scientifically of many common diseases and their causes, of the effects of study in schools, but in the whole book there is not a word as to the eyes, or the troubles that arise from ametropia. So careless of technic are we that not even Merlin's in-

genuity could estimate astigmatism with the ordinary trial frame in common use. The average optician knows nothing about his true business, and the average physician does not care to see to it that he shall know about it. Patients from 40 to 55 years of age are refracted without a mydriatic, or worse-refracted with it, in half the clinics of the world, and the best national medical journal¹ says that anybody can test such eyes with any ophthalmometer. It is precisely the weakening eye during the establishment of presbyopia that needs the most accurate refraction, because it is then that compensation by means of the elasticity of the lens is becoming progressively less and less. There are a hundred neglected requirements of accuracy that condition success. Without the least doubt, and weighing well what I say, I am sure that no discovery of modern medicine, except vaccination and the germ theory of disease, is of so great importance as this of eyestrain. Directly and indirectly this functional disease is the cause of more suffering than all the organic diseases combined. Incredulity cannot do away with the fact, and poohpoohing the "hobby rider" will only disadvantage the poohpooher and postpone the day of relief to millions of sufferers.

It is a curious fact that, closely inquired into, the knowledge of the relief of the disorders of eyestrain has

¹ See an otherwise capital editorial article in the *Lancet* of May 9, 1903.

largely come from the lay world and from patients themselves. But not, as the *Lancet* contends with justice, not from the opticians. While the professional world has been ignoring the facts, publishing its textbooks on gastric and nervous diseases, etc., patients have been finding out that their ills are curable by proper spectacles. The few general practitioners and nerve specialists who much longer ignore the fact will find themselves stranded by the superior diagnostic skill of the nonmedical. Circulars are being issued by quack opticians, who are appealing direct to the lay world for patients, and over the heads of the regular and honest opticians, and, of course, in defiance of the physicians. Such men are organizing, supplying themselves with ophthalmometers and machines galore. Traveling spectacle peddlers, even traveling doctor-oculists are all over the land, ruining eyes often, but in spite of that gaining organization and power. Their vogue is due solely to professional neglect of eyestrain! There is no professional duty greater than to stop supporting this quackery. Many otherwise regular physician-refractionists are learning the lesson that they may also ignore the official leaders of the profession, the referrers of cases, and without their aid or sympathy may win success by going straight to the people themselves. The tons of "headache powders," and lakes of "bitters," "tonics," and "appetizers," and the rest that are annually sold, teach, or should teach, a no less

suggestive reprimand. To encourage a greater revolt of the lay world into antimedicalism is neither good professionalism nor sound policy. We have need to walk heedfully in this dangerous road! For the unexaggerated and brutal fact remains that at least 25 percent of modern civilized people are today suffering from the ocular and systemic effects of eyestrain. Most all of the headache in the world, and of sick headache, is absolutely due to that cause. A very large part of the neurasthenia and of the hysteria also springs from it, and of "biliousness," anorexia, "nervousness," etc., it is one of the most active of all causes. Every one of a hundred different lethal and organic diseases which finds foothold through the vague but awfully real fact called denutrition, may and frequently does find that foothold through the eyestrain that almost always lessens vitality and begets denutrition. We are making a wise, a splendid crusade against tuberculosis, but the ground in which the tubercle bacillus finds place and food is one prepared by general denutrition, and of all the modern producers of a general lowering of vitality none is more frequent and persistent than eyestrain.

Because of the value of the eye to the organism and life the results of morbid ocular function cannot be borne by the eye itself. So nature has been forced to shunt these results elsewhere, and to obviate ocular injury at the expense of other organs. To this reason

is added the power of sexual selection. The beauty, as well as the usefulness of the eye, requires that it be kept from inflammations and abnormal appearances. Such in part is the explanation of reflex ocular neuroses. This is the reason that the great influence of eyestrain is not recognized. The effects are so infinitely various, so far removed from the eye, and so subtle, that the ordinary mind is incapable of realizing the truth. Any other organ may suffer instead of the eye. Bound up as is the eye with every psychic and physical function the reflex vicarious suffering takes the line of least resistance and exhausts itself upon innocent cerebral, muscular, or nutritional organs elsewhere. "Nervousness," whether hyperesthetic or hypoesthetic, is the almost constant symptom of all eyestrain sufferers. Chorea, petit mal, insomnia, are frequent consequences. The eye being the creator of the intellect and the instrument as well of all mental activity, the mind and disposition are speedily and frequently morbidized by ocular malfunction. I really believe that eyestrain is one of the greatest of all causes of "domestic infelicity," and that many a divorce has been due to it. If a woman becomes a scold, a gadabout, or everlastingly ailing, the probability is, of course, that hers is another case of the very common disease called "new woman," but it may also be one of eyestrain in the "old woman." Even the noble animal man may display "incompatibility of temper," go to the saloon

or club evenings, or drink too much, from the same reason. It will some time be shown that the abuse of coffee-drinking and tea-tipping is not seldom due to the attempt to whip up a tired or irritated nervous system, and a rebellious digestive system, hurt by the inhibitions and worries of eyestrain. Almost every eyestrain sufferer complains of sleeplessness, and that deadly trouble is at the bottom of a deal of woe in the world. I am sure that the tobacco dealers and trusts should combine against all opticians and oculists, for smoking is frequently encouraged by the desire to allay the cerebral irritation of eyestrain. It is striking that in the progress of civilization the consumption of tobacco and of coffee goes on rapidly increasing, and that those peoples which use the most of one are also the greatest users of the other. The connection is more than accidental, and the cause is not entirely dissociated with the great increase of nervousness, headache, biliousness, etc., among the hand-workers, the readers, the students, etc., of the more civilized nations.

But one of the most frightful facts of our modern life is the growth of the drink habit. A competent authority has calculated that the people of the United States spent last year \$1,172,565,235 for alcoholic drinks. If I should guess that one-tenth or one-thousandth of this worse than waste was caused by an unconscious attempt to undo the evil effects of eyestrain

on the nervous system and digestive organs I would be smiled at as a man overexcited in advertising his hobby. Yet I honestly believe that over one-tenth would be a low estimate. In the *Bulletin of Iowa Institutions* for April, 1903, Dr. Applegate finds that of 150 inebriates examined 63 had serious ocular lesions, muscular, optical, or nervous.

As to the production of crime and of criminals there is luckily an important bit of testimony. A large, an amazingly large, number of the young criminals of the State Reformatory at Elmira, N. Y., have such enormous defects of the eyes that as children and youths they could not possibly study, and could not even do handwork without danger to themselves, without botching it, or without such injury to the nervous system as would make truancy and a life of vagabondage inevitable. Eyestrain is a great teacher of crime. Nothing can be more certain than that De Quincey, Darwin, and Parkman had intolerable eyestrain, and that as schoolboys they were driven to truancy against every inborn taste and external influence. Their high moral natures kept them morally straight at an expense of suffering that was most tragical. Look out for the eyes of the nonstudious schoolboy!

Very nearly 100 percent of epileptics have some considerable eyestrain and of these about 50 percent have that otherwise rare and most unbearable variety, unsymmetric astigmatism and anisometropia. A num-

ber of cases of cure of epilepsy have been made by competent oculists, but it is probable that even when caused by eyestrain the large majority of patients with the established disease cannot be cured by glasses, because of the deep injury that has been done the nervous system. The same may be said of chorea. Prevention is the great word in medicine, and especially in nervous and mental diseases. The human brain is fundamentally a great storage battery, capable of secreting and then releasing great reserves of force in any way at the direction of the will and circumstance. Epilepsy and chorea, and nervousness are the useless, unmotivated, and morbid releases of these stored batteries of nerve force. To meet the exigencies of life the storage must continue. The disease is pathologic release. The cure is preventing the overstorage and the weakening of the sluice-gates, which allows the epileptic, choreic and nervous drowning of the lower valleys with the disastrous flood. Deforestation is the cause of the inundation of cities and even of the making of rich countries into deserts, with all the waste of life and water which we know. Reflex neuroses act in the same way to produce epileptic and nervous flood of the human organism.

A similar line of reasoning and observance of facts will finally reveal the ocular origin of a portion of the insanity of the world. The eye, again to be noted, is at once the creator, influencer, and instrument of men-

talities. Intellectual action cannot be spoken of or described except in optical terms, images, or representatives of these. A morbidly functioning pair of eyes will almost certainly, therefore, render the dependent intellect morbid. If superposed on a predisposed neurotic or unstable cerebral mechanism, they will almost infallibly end in "queering" or unbalancing the psychic or neural equipoise that constitutes sanity. Here again cure will consist largely in prevention. When mental imbalance has become chronically habitual, or even positive insanity, then the irreparable has been established. But look out for the eyes of the odd child, the developing crank, the acute monomaniac, the one with latent, but progressive, insanity. There never was a saner, wholesomer or more clear-headed intellect than that of Francis Parkman. Yet read how the insanity horror was before the minds of his friends (not of his own), and how he speaks of the study in his own case by the expert in neurology.

In this connection I cannot forbear allusion to an awful effect of eyestrain, when the eyes and all the rights of the irritated brain are ruthlessly trampled on by the most cruel overuse and abuse. Once in Darwin's life when this was done, he made his solemn will, in view, as he believed, of soon oncoming death. Many times in Carlyle's life a similar shuddering seized him, and Wagner contemplated suicide many times. The tortured mind saw no other escape from the misery

which haunted it with over-use of the eyes. Yet naturally these men were lovers of life, and even cheerful-minded. Even Carlyle was not inherently a pessimist, and his natural faith and hopefulness were constantly breaking through the gloom which use of his eyes threw over his mind. The greater the number of school hours demanded by a nation of the children the greater is the number of suicides and of child suicides, and especially where, as in Saxony, the correction by glasses of the small optical errors upon which the troubles of eyestrain chiefly depend is scorned.

The reason of the fact that the organism itself must be wrecked rather than the organ of vision lies in this passion for accuracy of which I have spoken, concerning its physiologic aspect. The longer an organ has been in evolution, the more fundamental its function for the safety of the organism, the more imperiously it persists in struggle for existence and in normality of action. The ontogeny repeats the phylogeny. This failure in accuracy of curvature of the cornea by so much as one-three-hundredth of an inch means the contradiction of the history of the race, means the unsafety every hour and minute of the day of the individual, means the inheritance of the abnormality and ruin of future organisms. Biology and the preservation of the race hang for perpetuity upon the extinction of that one-three-hundredth of an inch. See how that works out in fact, and then see how the sneer of the

cynic at the "exaggerator" is contemptible and criminal, how unscientific is such science. Take an instance in organic pathology, as more striking than the functional pathology which the pathologic pathologist affects to scorn. He cares nothing for the astigmatism which is a most profound concern of the God of biology; but he must recognize that a life of morbid function, never, for an instant, physiologic, usually and hopelessly renders other organs than the eye irreparably morbid, hopelessly incurable. Tie an arm up and it is soon paralyzed and withered. Stop speech for twenty years and the vocal bonds renounce their function. But an eye will wait for fifty years for an astigmatic lens and in an instant it is functioning normally. And for the same fifty years an eye that has never seen a thing, will wait for the removal of the cataract, when in a moment its function is perfect, far more perfect than the mind that must still learn how to judge of what the new made eye tells it. This everlasting waiting for relief, this preservation of the possibility of normal action, this utter refusal to be turned from its right and healthy activity is absolutely exceptional in the eye, and is most amazing.

This brings me to the mention of the role of eyestrain in our schools. Dr. Johnston, of Washington, D. C., enumerates a very large number of cases of illness and disease, and of physical and mental injury, and in particular to the effect of school life on the eyesight, the

frequency of headache, and resulting sleeplessness, affecting, in some instances, from 38 percent to 48 percent of the children, and he instances the experiences of the Cleveland Public High School, where 25 percent of the girls and 18 percent of the boys had been compelled to withdraw in one year for various reasons, mostly on account of bad health. It is an absurdly low estimate to place the proportion of the 17,000,000 of American school children, students, etc., whose characters and health are being injured or positively ruined by eyestrain at 10 percent. Myopia, as all know, increases with each added year of school study—and myopia usually means the eyeball stretching from lack of proper glasses. The “nervous,” “backward,” “stupid,” and unhealthy pupil is usually so from eyestrain. The State has no right to demand that every child should attend school without also stipulating that its eyes shall be made capable of study.¹

The common neglect of this important part of medicine and of ophthalmology is shown by a glance at the arrangements, the sorry makeshifts, in eye-clinics, for refraction. They are usually simply contemptible.

¹ Among a thousand good and blessed charities, among all selfish and wasteful ones, among others that harm instead of help; and that increase instead of lessen the evil, there has never been found one, as much needed as any of the best, which should help the poor to secure proper spectacles. I know of no charity, except that for crippled children, which commands our sympathy more acutely.

This most difficult and skilled work is commonly left to students, and in comparison with operations, and inflammatory diseases, and ophthalmoscopy, is held to be of so little value that instruments, lights, etc., are neglected, and good results rendered impossible. And yet, eyestrain creates by far the greater part of the local inflammatory and surgical diseases of the eye. Such refraction cannot, of course, have any effect upon systemic and cerebral reflexes, except to make them worse. No refraction at all is better than inaccurate refraction. The endowment of refraction schools is as necessary as that of any other branch of medical study.

If one looks out over history there is seen to be no condition of human life wherein ametropia did not play a great role, and always one of evil. Eyestrain is the greatest cause of inflammatory and surgical diseases of the eye itself, including cataract. The only one of all the great ocular troubles it does not cause is presbyopia—the failure in sharp near vision that comes on at about 40 or 45 years of age, and is completed at about 60. This failure, parenthetically noted, is one of a dozen striking proofs of the tremendous difficulty encountered by the Biologic Architect in making the eyes. The nourishment of the transparent lens without red blood-corpuscles and nerves is such an almost impossible feat that in a large proportion of cases, if ametropia heightens the difficulty, it is only possible to maintain transparency for the first fifty years of life. But

whether or not complicating eyestrain adds to the difficulty, the elasticity of the lens begins to fail at 45.

Even in savage and semibarbarous life eyestrain, conjunctivitis, presbyopia, and cataract must have been the cause of a vast amount of suffering. The common trephining of prehistoric and later savage peoples shows that headache was very prevalent. Any beautiful oriental rug, carving, or other art-work, may have been created by aching brains. Many of the weavers, the basket-makers, arrow-chippers, etc., must have been sufferers; the punishments personal and tribal must have been great, and all such workmen and workwomen came to grief when presbyopia set in. In peoples emerging into civilization the morbid ocular factor becomes still more felt. In the millions of negroes of our country, many striving for education and expertness in handicrafts, at least 10 percent are sufferers from eyestrain; only the fewest can now have scientific correction of their ametropia.

In the creation of the alphabet, millions of bad faulty eyes must have brought tragedies into their owners' lives. In battle and chase victory and life were often on the side of the perfect seers, and defeat and death on that of the imperfect eyed. A myriad mysteries of history could undoubtedly be cleared up if we but knew all the influences direct and indirect about the defects of the chief of the senses. Who could imagine the results of this factor in the hundreds of millions of

Chinese throughout thousands of years in which all offices, honors, and power have been and still are dependent upon scholarship and written examinations. Similar griefs must have afflicted vast numbers of the self-restrained and dignified Japanese. I suspect that eyestrain has been the cause of the melancholy type of Chinese and Japanese faces, and especially of the peculiarity of the eyelid contours. A similar result in Europeans begot the term "blue blood," as applied to the castle-dwelling and aristocratic women, across whose pale temples ran the veins produced by eyestrain, which oculists now find in unaristocratic sewing women and others of the slaves of civilization. There must have been sad consequences of faulty eyes among the monks of a thousand years of medieval life, who were busied in study and copying manuscripts as they passed down to us the literary treasures of Greece and Rome. I have read somewhere of the pathetic lives and ruined eyes and health of the present-day sewing women in convents, especially in the Latin nations of Europe.

Pascal, I think it was, said that man's troubles arise from his inability to sit still in a room. He meant that lack of reflection and planning plunged men and nations into ill-judged activities. A correlated truth is implied in the saying, for when one nowadays sits still much he or she does not reflect so much, but soon goes to doing something—reads, writes, makes something with the hands, etc. The musician, Wagner, expressed the

same thought when he spoke of the "damnable organ of sitting still," and to none did this "organ" bring more suffering than to him. The doing something while sitting means eyestrain in at least 25 percent of the doers. Eyestrain means irritation and suffering only relieved by doing something outside, as all eyestrain sufferers have learned. Hence the frightful avidity in vast numbers of people for war, sports, athletics, and wasted activities of a thousand kinds. The nations of the world are at present crazy with securing "undigested territory." The financial world is suffering from a similarly frightful dyspepsia from "undigested securities," as Mr. Morgan dubs them. Well, the medical world is suffering in the same way from undigested knowledge. The death rate is twice as high as it need be, if the knowledge gained were put in practice. Of all the undigested knowledge of the profession the greatest quantity of heavy food on our stomachs is that of the knowledge of eyestrain.

The great philosophers, writers, historians, artists, these are the most valuable assets of a nation. How they are treated is the most important of the financial and governmental matters of that people. It is politically, socially, and personally due that after-generations shall hold up to view the ancestral carelessness and errors and prevent similar ones from going on. Responsibility for the care of genius is the most solemn responsibility in the world. And yet, "Genius go

hang!" is the judgment of the past and still continues to be the judgment of the present. The ancient criminal idiocy is not yet dead of supposing that the physical and emotional sufferings of men of genius were the cause of their genius and that we should make all such men suffer the most possible in order that the long-eared aftercomers may enjoy the results of their work. It is a diabolic theory, but the long-eared both consciously and unintentionally bring it about that way.

When Beethoven was writing the Ninth Symphony he was squarely in the middle of the presbyopic period, and he was a martyr to pain in his eyes; he feared his ailments would cut short the thread of his life, his "bowels were in the most wretched condition," he had "the trouble with his eyes," and in brief, "his organization was entirely shattered." Fifty-seven years, most of them years of misery, was Germany's order as to Beethoven.

Banishment from the country; hideous poverty; worse than either, absolute nonrecognition; worse than that, malignant hatred of his musical work; worse still than all, the most atrocious personal cerebral and physical suffering—this is what Germany ordered for Wagner. And of all the doctors who wrapped him in wet-packs not one noticed, or would have cared if he had noticed, that Wagner's left eye was turned up and out, and his forehead concentrically wrinkled to get the lid away from the pupil. Frequently he could not write

another line of a letter because of the added torture that the writing of that single line caused. And this was in the land of von Graefe, and in the fatherland of modern medical science!

England told one of her greatest literary geniuses to deaden his horrible pain with opium and walk, walk, walk. De Quincey had to obey—and hold one eye shut in his late years to rid his brain of its harassing image.

Another, a still greater child of England, was turned into a terrible dyspeptic and misanthrope, made to suffer as only genius and eyestrain and pseudomedicine, when combined, can make men suffer, and was also commanded to walk, walk, walk, ride, ride, ride, and waste, waste, waste both time and talents of infinite value, in order to rest his eyes, his eyes that needed only a pair of appropriate spectacles. Carlyle obeyed his unloving tyrant.

Huxley was also ordered to walk, walk, walk, and to suffer, and to quit his great work just when he was best fitted for doing the best of scientific labor. And Huxley was a physiologist most exacting as to microscopes, but knowing nothing, caring nothing, for the eye that looked through his fine microscope. Medical science had not a hint to offer Huxley.

Medical science told Browning his headaches were inherited, told him to go to bed—and to read, if he wanted to. Browning would read a minute or two and get the headache, then close his eyes, turn toward the

wall for a minute or two to get rid of his headaches, and so on! The poor poet was also commanded to walk, walk, walk, and idle the rest of his life away. Browning obeyed.

The greatest of England's modern sons, if by greatest we understand that his work has had the greatest effect, was Darwin. His work was limited to an average of an hour or so a day with his eyes, and the rest of his life he was ordered to spend walking, walking about "the sand-walk," or shivering in wet-packs. With the exceptions of Parkman, Nietzsche and Wagner no man ever suffered more from eyestrain. Poor, patient, glorious Darwin!

Spencer had a loathing of doctors and opticians, and his life could have been made a very different one, far more useful, far more productive, if he could only have had a pair of spectacles neutralizing his myopic astigmatism. With such a help he could have learned German, could have done the reading he should have done, could have avoided the mistakes, scientific and philosophic, which he should have avoided. Luckily, he has been too astute to suffer as others have done. It is England's loss and our loss, not that of Spencer. It is our fault, not his.

And Parkman! We put him on the gridiron to be tortured and gave him his gridiron to work with, and we would not let him walk in the day because the light blinded him. We refused to let him write but a minute

or two at time, and refused him even that pleasure for fourteen years, and set him to raising roses. Finally, as if still vindictive, fate refused him the right to walk day or night. We forced him to carry on his gathering of 70 odd volumes of historic notes, and of writing his few volumes by the aid of the eyes of others. He asked only for a pair of lenses, correcting his unsymmetric astigmatism, but we said, "Go to! Astigmatism is the hobby of hobby-riders!"

When we read of the sleepless Parkman nodding familiarly to the Boston Common policemen in the late hours of the night we are at once reminded of the sad De Quincey appearing at midnight to workmen far from his home like a ghost out of the darkness, and also of the tormented Carlyle, seeking, as they, ocular and mental rest, by riding in the night among the loneliness of the Scotch moors. A common origin of their ills adds to the pathos of their lives, and that they were unconscious of it accentuates the fatality all the more.

One of the greatest women that America has produced, Margaret Fuller Ossoli, was made to suffer martyrdom during her short life by eyestrain, the sickness and the poverty it produced. Her incomparable intellectual powers were palsied by it, and it was the final cause of her accidental death in middle life.

All the newspapers that Whittier edited had to be abandoned because the editor could not carry on his literary work. He had to renounce the great duty of anti-

slavery reform for which his heart and head had fitted him, and his predestined role of statesman had also to be abandoned,—all due to eyestrain. Retiring to the farm and the life of a valetudinarian, even his beautiful poetic endowment was denied proper outlet because he could not write and study as he should have done.

Mrs. Carlyle's life and happiness were wrecked by sickheadache due solely to eyestrain; and ignorance and malice have made a sad mess of it in writing of her and her husband.

Eyestrain made George Eliot and Lewes great sufferers, compelled them to waste much of their lives in walking, etc., and killed them at 61.

One of the greatest of European men, with a splendid equipment, physical and intellectual, one of the most erudite of men, a professor of philology at 24, was martyred, literally, while he lived, his intellect morbidized; he was finally driven into insanity—all simply because he had not a scientific pair of spectacles. And Nietzsche's pious students today are organized into a society to study each day's living and thinking of their master. They would do much more good for the world if they would study the science and doings of each day's living of the oculists of their native land.

For

“These old, unhappy, far-off things
And battles long ago,”

are being repeated every day, and everywhere. There

are millions of such patients in civilization. If for some of the old ones we may as a profession be half-excused, it is a double crime in our time, when ignorance in a scientific man is indeed a crime against science and against humanity.

But it is not only and not chiefly its geniuses that concern medicine and a nation, when we consider the total effect of this factor. Civilization has tremendously and suddenly increased the eyestrain by a thousand occupations which demand "near-work" with the eyes. Printing, schools, and city-life give the matter an entirely new aspect. Sewing women, artists, artisans, machinists, musicians, clerks, typewriters, engineers, pupils, all the professional and business classes,—these are the workers, spurred also to a continuousness of labor such as has never been demanded, upon whom the obligation rests. The nation and the national medical profession that forgets or ignores this, overlooks a highly important element of progress. And it is one that is all the more effective because it conditions the peculiar means whereby modern civilization advances.

Why it was that some stupid and obstinate old architect should have scorned a splendid piece of quarried rock sent to him by his workmen, is one of the most incomprehensible things of history. But better minds and eyes finally came and it was said, as it may now be said, "The stone which the builders refused is become the headstone of the corner."

APPENDIX.

SIXTY-EIGHT REASONS WHY "GLASSES DID NOT GIVE RELIEF."¹

HEADACHE, sickheadache, biliousness, dyspepsia, neurasthenia, anemia, anorexia, chorea, epilepsy, and many other nervous mental, cerebral, and denutritional disorders may, or may not, be due to eyestrain. That glasses in certain cases fail to relieve these symptoms is no proof or disproof of either alternative. The failure may be due to any one or to any combined number of the following facts:

1. The patient's complaint may not be caused by eyestrain.

With those who habitually indulge in "hobby-riding" of a negative kind as to eyestrain, it is customary to charge others with exaggeration in claims as to the influence of this factor. "The eyestrain crank" of today not only does not ride his hobby hard, but he does not ride it nearly hard enough. There is no danger that he will convince the world that eyestrain is the chief factor in causing the great majority of human diseases, because that is not true. It is requisite only that it shall be acknowledged as an important and active source of many, but yet of a minority, of diseases.

2. Intercurrent disease, dyscrasia, bad hygienic habits, conditions of mind—many indirectly related

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factors may condition or hinder the cure of the disease which fundamentally depends upon eyestrain, or was principally caused by it.

Disease often has more than a single cause and a cure may depend upon a number of combined treatments.

3. Stopping the cause does not always stop a morbid effect.

Especially is this true of eyestrain. A nervous system, or distant organs, or the eye itself, once severely morbidized, may not recover soon or even at all, after the injuring cause has been abrogated.

4. The glasses may have been prescribed by an optician, instead of by a physician.

No optician ever prescribed a scientifically correct pair of lenses. There is no duty more incumbent upon the medical profession than to make illegal the prescription of glasses by opticians.

5. The physician-oculist may lack the degree of special education and experience requisite to do refraction work.

Long training and a peculiar devotion to the acquirement of the special learning, skill, and judgment are necessary to enable the physician to become a successful refractionist. There are many such in our country, but a thousand new ones well-fitted for their work could at once find good practices in the United States.

6. The oculist may not be morally right minded in carrying on his work and in the conception of his function in life.

No good refraction work is possible by a man whose aim is success and money-making. The fundamental motive of a physician must be the relief and prevention of suffering. A man who does not love his fellow-men will not rightly succeed as a physician and especially as a refractionist. An oculist who does not love refraction will take short cuts to avoid the tediousness of careful diagnosis, and he is likely to become an ophthalmometer-worshiper.

7. He may not be intellectually fitted or capable of doing this particular kind of work.

A man may be a good operator, or competent to treat inflammatory diseases, but utterly unable to diagnose and prescribe for an error of refraction. This demands a delicate sensitiveness and a peculiar painstaking accuracy of mind, judgment, disposition, tact and touch, which can necessarily be possessed only by a minority.

8. He may not be sufficiently painstaking in attention to mathematic accuracy and to the slightest details.

It is the little, "the inconsiderable thing," in refraction work upon which the relief of the reflexes depends. High optical errors ruin the patient's eyes, dictate his occupation, or change his interest in conduct or ideals of life. It is the low error, especially the unsymmetric astigmatism, and the slight anisometropia that beget the enormous variety of reflexes to the brain, the digestive system and the entire nervous system, without showing any injury to the eyes, or producing symptoms in them.

9. He has not devoted himself almost exclusively to refraction.

The work demands too severe and continuous absorption of energy to permit of other interests. Science is too extensive

in any one branch, and especially in this one, for the "universal specialist." Mastery is not attainable in more than one department. If an oculist's principal interest lies in surgery he will neglect the conditions of success in refraction. Good refraction prevents the ocular surgical diseases, and it will largely do away with the ophthalmic surgeon. There have arisen men who cut muscles for eyestrain, or who pretend to do so, but who prescribe glasses at the same time, the cure being carefully credited to the tenotomy.

10. He relies upon rules instead of studying each case individually, judging and ordering by intellectual and discriminating methods.

There is no "typical case" in studying eyestrain, and far more than any other cause of disease, its effects are variable, subtle, and multiform. The only rule should be to have no rule.

11. He has not office tact and an ability to get in touch quickly with the patient's condition of mind.

To elicit the ever-new and ever-varying differences of symptoms of eyestrain is difficult, but it is necessary to do this in order to understand the disease and to give relief. The oculist who looks upon his patient as so much "clinical material" never gets the real clinical material.

12. He has some prized fad or method, as retinoscopy, a peculiar drug, a mechanical device, optometers, refracting machines, etc., in the use of which facts must accommodate themselves to the fancy instead of the data fashioning the diagnosis.

In science, and especially medical science, and above all, in the oculist's combined science and art, the theory must be the

outcome of an unconstrained reading of the facts. Lack of prejudice is a primal condition of truth-getting. No compulsion must be put upon the facts or the method of eliciting them, except to minimize the friction and avoid the errors of all methods.

13. He relies upon objective instead of, when possible, upon subjective methods of diagnosing ametropia.

It is the patient's eye not the scientist's machine which the patient has to use in after-life, and the patient is less likely to make mistakes than the machinery plus the machinist. Ametropia cannot be so certainly estimated by any objective method as by the subjective method. In children, the stupid, the amblyopic, insane, etc., we may be compelled to rely upon it, but it is in default of the more trustworthy one. Sometimes the two methods must be combined, but the oculist who in the case of intelligent patients allows the ophthalmoscope, retinoscope, ophthalmometer, or "refractometer" to guide his diagnosis and dictate his prescription will inevitably and rightly fail to do accurate work. All machinery is a tricky, untrustworthy servant.

14. He does not use a cycloplegic.

There is no accurate estimation of ametropia except by paralysis of the ciliary muscle and the common teaching that the cycloplegic is not necessary during the years of incomplete presbyopia is the reverse of the truth. Precisely when the accommodative function is being crippled there is the greatest need of the greatest accuracy. Care must of course be taken in excepting those with a tendency to glaucoma, in the choice and method of using the mydriatic, etc., but there is little danger from the office use of combined homatropin and cocaine in patients up to 55 years of age.

15. His cycloplegic may not be of the right kind.

Certain mydriatics in certain cases produce congestion and thus alter the tension of the eyeball, changing the corneal curves, the pressure of the lids, etc. Combined with the mydriatic cocain usually prevents this.

16. The cycloplegic may not be of good quality.

Discs placed within the lid and allowed to dissolve produce congestion. Many solutions are spoiled by age or by *penicillium*. Some chemicals are themselves poor in quality when sold. Some solutions are so badly made that they produce irritation, or even infection.

17. The cycloplegic must be rightly instilled.

If the patient is instructed to do the "dropping" it is usually poorly and improperly done. From six to eight instillations during the hour immediately preceding the tests made in the office by a medically trained person insures the best results.

18. The office lights, reflections, etc., often prevent accurate answers of the patient.

In many oculists' offices a glare of light in front or at one side so exhausts the retina that fatigue inevitably results. Often a light from behind reflected from the posterior surface of one or both lenses in the trial-frame confuses the attention and tires the retina of one or of both eyes. The eye under mydriasis cannot protect itself from light insults.

19. The illumination of the test cards may be so excessive, so poor, or so irregular as to fatigue the patient's retina.

This is especially true if the test cards are made up of black letters on a white background. It is also true when a large area of reflecting surface is illuminated by a bad system of lighting.

20. Test cards made with black letters on white cards exhaust retinal sensibility in the iris-paralyzed patient.

21. A test card may be hung at such an angle as to reflect an irritating and exhausting sheen into the patient's eyes.

22. Astigmatic test cards, Pray's letters, and a hundred devices confuse the patient rather than help him to clearness of decision.

One good black card of test letters is all that is advisable or necessary.

23. It is impossible for the most expert refractionist to elicit accurate diagnostic answers when using the ordinary trial-frame.

Nothing so well proves the abominable neglect of the necessary conditions of accurate refraction as the commonly used trial-frame. In a world full of ingenious mechanical devices this wretched mechanism seems expressly designed to prevent the very conditions of precision. It is heavy; it fits no eye or face; it does not hold the trial-lenses in the same position in which the spectacle lenses will be placed; it wounds the patient's nose, and the astigmatic lenses cannot be turned in it without absorbing all the patient's attention, so that none is left for discriminating as to acuteness of vision. Other devices, optometers, refractometers, lens-holders, etc., lead to other and to worse abuses. A proper trial-frame must be light, produce no irritation of the skin, allow the trial-lenses to be properly placed as in well-adjusted spectacles, and above all, it must permit rotation of the cylindric lens with the greatest ease and without attracting the patient's attention in any way. The frame should be grooved or slotted so as to allow of easy rotation of the cylinders at least 180°.

24. The case of test-lenses in common use is hardly less ridiculous than the trial-frame, etc.

There are not enough lenses of a kind; there are not enough kinds; the gradations of differences are too large; the handles are either absent entirely, or phocomelic and useless, etc. Good refraction requires handles to the lenses about three-fourths of an inch long.

25. Frequently the test-lenses are so scratched or soiled that acuteness of vision is prevented instead of encouraged.

26 to 29. In interposing the low-grade trial lenses to test slight differences of visual acuteness, the detection of the difference by the patient is rendered doubtful or impossible by the usual method of inserting or holding the test-lens.

- a. By allowing the interposition of a needless and confusing image.
- b. By striking the trial-frame or inserted lens with the differentiating lens, making a noise, and consequently distracting the attention.
- c. By getting the hand in the line of vision.
- d. By allowing too great time to elapse between two changes so that the memory cannot form and carry precise distinctions, and by not allowing sufficient time in special cases and in certain persons for the formation of such judgments. Great helps in all of these points are two each plus and minus sphericals and cylinders, 0.25

D. each with handles about four inches long.

30. Patients must not be hurried, or intimidated, or dominated.

To elicit correct answers the peculiarities, verbosities, and fancies of the patient's mind and disposition must usually be guided rather than crushed; controlled, indeed, but not so as to arouse abnormal and incorrect answers.

31. The patient's answers may sometimes be unintentionally the reverse of correct, or wrong in odd and unexpected ways.

Not the least of the oculist's expertness consists in deducing the truth from such answers, and by a sort of unexplainable intuition reaching the diagnosis through the jumble of inaccuracies. Rarely the objective methods may be needed to untangle the mysteries.

32. Good or bad visual acuteness is not the decisive criterion of accuracy of diagnosis of ametropia.

Many patients may be given 20/20 or even 20/15, with unsuspected astigmatism, misplaced axes, or otherwise inexact correcting lenses. "Amblyopia" may be a euphemism covering the oculist's blunder and inability to find the true correcting lens, and to bring the vision to normal.

33. There is probably not an optically or "mathematically" perfect pair of eyes in the world.

One pair of eyes pronounced so by a great authority I proved to be myopically astigmatic, and that this defect caused serious and repeated subconjunctival hemorrhages and other symptoms. Such slight defects may or may not produce symptoms, or need correction.

34. Great care is necessary to determine the relative amounts of astigmatism and of axial defects.

Astigmatism over-corrected or under-corrected produces instead of relieves eyestrain. Too high or too low sphericals aggravate astigmatism and the irritation it produces.

35. The location of the precise axes of astigmatism is necessary for the relief of symptoms.

There are far more asymmetric axes than is commonly supposed. Inaccurate placing the axis by 5° in low defects, or less in high defects, insures failure. In high degrees after the spectacles have been fitted, tests should be made with each eye alone, to see if the axes are exactly placed, by twisting the frame slightly on itself to either side. If vision is increased by the procedure then there is incorrectness requiring a more perfect adjusting.

36. The head of the patient should be kept erect and in a natural position, not canted to one side or downward, while the tests are being made.

Unsymmetric and oblique axes of astigmatism frequently make the patient habitually incline the head to either side or downward, so that when the errors are corrected in an abnormal position the result afterward may not be satisfactory. This is especially true when optometers are used.

37. Low degree myopic astigmatisms are too frequently not diagnosed, and owing to the utter inability of the ciliary mechanism to neutralize them, they may produce severe reflex disturbances.

Ease of securing acuteness of vision by piling up the myopic sphericals leads to the error of ignoring the existing astigmatism.

38. "Full correction" of myopia is a prolific source of eyestrain.

Hardly any two oculists will agree as to what is full correction. Ignored astigmatism may vitiate all findings and results. Even approximately "full correction" will produce strain for near-work. Greatly reduced correction is needed in the near-work glasses, and some reduction is usually necessary even in the distant glasses.

39. The static mydriatic refraction cannot be trusted to dictate the prescription of "constant" glasses.

There are numerous and unsolved problems concerning the "postmydriatic changes," and the reductions in hyperopia, and especially in mixed astigmatisms, present a multitude of such problems of amazing variety and difficulty, failure to solve which with exquisite accuracy, means failure to relieve, and may mean even increase of the symptoms. A big book could be written on this subject.

40. Hypertrophy, or miscalled "spasm" of the ciliary muscle, may make it impossible to prescribe the permanently right glasses at once; may demand changes at short intervals, and may render the glasses prescribed unendurable.

41. The patient's history as to the eyes and reflex diseases must be considered in giving high or low corrections either myopic or hyperopic.

42. The injury to the retina and to the sight-making centers by long eyestrain may make ocular labor impossible for a short or long time, even with proper correcting glasses.

The older the patient the greater the muscle imbalance, the higher the amblyopia from misuse and abuse, the longer and more doubtful will be the cure.

43. An error may be made in transcribing or copying the prescription; the optician may grind the glasses wrong; his tools may be worn; he may give the patient somebody else's glasses; the patient may exchange spectacles with some one, etc. Loosened lenses may be reinserted wrongly by a jeweler, etc.

These things are constantly taking place.

44. The order for glasses must be carefully adapted to the occupation of the patient.

Artists, musicians, some music teachers, draughtsmen, barbers, certain machinists, some physicians, and patients pursuing many peculiar occupations, require lenses with different foci from those of patients in other callings, and may even need exceptional styles and shapes of manufacture.

45 to 51. The muscle-balance conditions the strength of the lenses to be ordered, the aim being to establish a normal relation between convergence and accommodation.

- a. There should be at least thrice the power of adduction as of abduction to give ease in ocular labor of those doing much near work.
- b. Low hyperopic corrections are needed in exophoria.
- c. High hyperopic corrections are needed in esophoria.

- d.* Hyperphoria of more than 1° or 2° , when permanent, should be partially corrected by prisms ground in the ametropic lenses.
 - e.* Permanent prisms correcting exophoria or esophoria are not advisable. In exophoria the adduction power may be trebled or quadrupled by prism gymnastics.
 - f.* The wearing of a new correction itself soon changes the muscle tensions, intraocular pressures, etc., and thus may change the ametropia, and make a change of glasses necessary.
 - g.* It will surely change the muscle imbalances, thus rendering the old prescription incorrect.
- 52 and 53. The symptoms of long-continued exophoria and esophoria, of a high degree, may rarely not be relieved by proper ametropic spectacles alone.

In the great majority of cases the ametropia is the original cause of the lack of muscular balance. In some it may not be so, and in others that are chronic, the effect does not remedy itself with the functional cessation of the cause.

- a.* In exophoria that causes symptoms and that does not in time disappear with proper glasses, the symptoms can be relieved only by increasing the adduction power by appropriate prism-gymnastics. It may be doubled, quadrupled, etc., until the symptoms vanish.
- b.* In high esophoria, a very rare condition, producing symptoms, a case or two may be met in a

life time, in which there is little or only partial relief, either by glasses, prisms, or surgical operation. Even good oculists cannot cure in more than 999 cases out of 1,000!

54. Like every other biologic condition, the ametropia is constantly changing, and thus retesting is required at stated intervals, with a change of glasses if required.

Few eyes remain the same in refraction and muscle-balance for longer than two years. In some patients the change will produce eyestrain in less time, and even every few months for some years.

55 to 60. One of the most frequent causes of eyestrain is ill-adjusted glasses.

- a. But few people can keep eye-glasses so accurately adjusted, for near work, that they do not produce at least as much eyestrain as they relieve. A new bearing on the nose is unconsciously found which is more comfortable as regards the skin, but which puts the astigmatic axis in an abnormal position. Spectacles are the proper instruments for the great majority of patients.
- b. Nine-tenths of all glasses are set too vertical. Nine-tenths of all our looking is downward. The axes of vision should be nearly perpendicular to the plane of the lenses in the most straining work.
- c. Nine-tenths of all glasses are set too high. In

downward-looking and in near work, the axis of vision is through the lower edge of the lenses instead of through or near the optical centers.

- d. Few opticians know how to fit and adjust a pair of glasses so that the pupils are behind the optical centers of the lenses. The photographs of a hundred people wearing glasses show that the glasses are so ill-adjusted as to disgust an observant oculist.
- c. Few opticians fit the temple pieces of spectacles and adjust the wires to the irregular curves behind the ears, so that they produce comfort. Many patients leave off glasses because of this discomfort to the nose or ears.
- f. The optician must readjust the lenses at least once a month.

61. Before wearing the glasses ordered they should be seen by the oculist, tested as to correctness of manufacture, and as to the adjustment, etc.

And periodically thereafter. No competent oculist allows his patient to wear glasses he himself has not tested and pronounced correct in manufacture and adjustment. This must be done after every removal, change, or repairing.

62. Nine-tenths of all glasses are set too far from the eye.

The requisite closeness to the eye cannot be obtained in a majority of cases except by partial clipping of the upper central

lashes. Retrimming is also necessary once a month. If the lashes strike the lens the eye is irritated, even congested, and the glasses are soiled.

63 and 64. Soiled lenses are frequent and constant sources of eyestrain.

a. From too long lashes.

b. From lack of frequent and proper cleansing.

65. The Canada balsam in bifocal lenses may produce irregularities in the refraction, or it may dry and produce opalescent bubbles so that the eyes soon tire. A lens may have an original or acquired imperfection, flaw, dent, etc., in the axis of vision, producing unendurable irritation.

66. Eyestrain often exists in presbyopes because of the need of bifocal lenses.

This is produced by the effort at convergence in eating meals with the distance lenses only, and in the constant looking with them at near objects, rather than to change glasses, etc.

67. Pride and prejudice often make people secretly or openly, temporarily or constantly, forego the use of spectacles, of bifocals, and even of eye-glasses.

Thus the conditions of the test are not properly observed.

68. There are one or two ways in which proper glasses may rarely increase eyestrain, at least temporarily, instead of relieving it. This is when one eye has been thrown out of function by past eyestrain, the image psychically ignored, or the retinal or central organs

so weakened, that the proper image so stimulates and arouses function in a weakened organ as to beget trouble until amblyopia disappears and the injured organs become normal in action.

It is understood in all cases that the eyes are not organically diseased, that they have transparent media, and that strabismus, alternating or other, does not exist. I have also had two cases in which one eye had so long been used for distant vision only, and the other for near vision only, that this habit could not be overcome. I have also had one case of acutely stretching eyeballs, suddenly contracting by the influence of glasses, so that only low and quickly changed correction was borne.

INDEX.

Accurate seeing the sine qua non of organismal life.....	41
Agony endured by Nietzsche.....	21
Ametropia, results of correction of on habits of study.....	133
Ametropic eye, innervation of.....	40
Animal magnetism, Mrs. Carlyle on.....	225
An "ophthalmic surgeon's" nonrecognition of optical defects.	333
Apathy and exhaustion.....	29
Aphorismic form of Nietzsche's writings.....	319
APPENDIX	359
Arthritis, Parkman's life-long.....	38
Astigmatism, and eyestrain.....	331
asymmetric, evil effects of.....	332
attempt to treat it by ignoring it.....	35
treated by the wet-pack.....	123, 223
unsymmetric, in epileptics	29
Atypic conditions of Nietzsche's attack.....	321
Autobiographic letter of Parkman.....	193
"Bachelder Eye," the.....	260
of Webster, Whittier, etc.....	34
Biliousness	25
Biologic divinity.....	22
Brain, pain in	20
Browning's headaches.....	39
intellect, influence of eyestrain on.....	48
method of avoiding suffering.....	18
plan of life	27
symptoms	10
Cardiac complications of eyestrain.....	26
Carelessness in technic	336
Cause of disease and the cure.....	41
Carlyle's belief in the advisability of death.....	30

Carlyle's description of morbid phenomena.....	220
feverish intensity.....	317
passion for activity.....	27
symptoms	10
work, character of.....	47
working time and ability.....	17
Carlyle, Jane Welsh, and medical shams.....	223
clinical facts concerning.....	205
exhaustion and activity of.....	30
on the mysteries of the infinitesimal dose.....	224
physical and cerebral suffering of.. ..	222
the daily walk of.....	28
the sharpness and acidity of.....	48
the sufferings of.....	17
from colds or influenzas.....	35, 233
the symptoms of.....	10, 13
vindication of.....	237
Carlyle's, Jane Welsh, case, irreconcilable hypotheses in....	230
description of the wet-pack.....	223
heredity	39
cause of	217
presbyopia	238
sickheadaches and influenzas due to eyestrain...	234
Carlyles, drugs taken by the.....	32
Cerebral effects of severe eyestrain.....	165
Child-suicide and general insanity in proportion to hours of school study	32
Chloral, and its effect on Nietzsche's condition.....	321
Ciliary muscle, tiring of.....	331
Civilization and eyestrain.....	44, 325
Climacteric theory	39
Clinical data concerning George Eliot.....	59
George Henry Lewes.....	89
Herbert Spencer	241
Margaret Fuller Ossoli.....	272, 275, 277
Mrs. Carlyle	205
Nietzsche	286, 302

INDEX.

379

Clinical data concerning Richard Wagner.....	95
Whittier	253, 262
Colds and influenzas in Mrs. Carlyle's case.....	233
relation of to cerebral nervous and reflex causes....	64
to diseases of the nervous system.....	233
Correction of eyestrain, relief of symptoms by.....	25
Criminals, high hyperopia in.....	29
Cyclopegia in myopia	311
Darwin's <i>Beagle</i> voyage.....	28
devotion to sports	28
fear of death.....	30
literary product.....	18
melancholy and depression.....	30
psychic fatigue and depression.....	30
"sandwalk"	27
style and matter.....	48
symptoms	10
Death, desire or fear of.....	30
fear of, an effect of eyestrain.....	344
of Margaret Fuller.....	281
Defect of European ophthalmology.....	310
Defects, high and low, their contrasting effects.....	332
Degeneracy, alleged, of Nietzsche.....	319
De Quincey's life-work.....	47
"measured circuit"	27
opium-eating	17, 33
symptoms	10
use of but one eye.....	31
youthful vagrancy	28
Diagnosis, failure in making.....	218
Diarrheal diseases due to eyestrain.....	26
Difficulties and cost of Parkman's ocular abnormality.....	158
Digestional reflex	24
Disease, cause of, and the cure.....	41
functional	15
of the fourteen, strange mystery of the.....	12
Diseases, influence of, on character of work.....	47
intercurrent	35

Dyspepsia	25
"Dyspeptics," melancholy and depression of.....	30
GEORGE ELIOT	57
"books became a passion".....	58
connection between ill-health and indoor life.....	65
reading and writing and illness.....	70
death of	19
medical profession in its attitude to the case of....	81
relation of colds and influenza to eyestrain.....	63
the symptoms of.....	11
George Eliot's depression and melancholy.....	77
forty years of sickheadache and other suffering....	59
night terrors in childhood.....	58
ocular symptoms	81
plan of life.....	28
presbyopia	79
suffering intensified by beginning.....	79
Enuresis, nocturnal, cured by glasses.....	32
Epilepsy, eyestrain in.....	342
Epileptics, unsymmetric astigmatism in	29
Errors, low and high.....	43
Erysipelas, Wagner's.....	38, 117
Evil results of incorrect glasses.....	273
Excesses due to eyestrain.....	341
Exercise, Parkman's craving for.....	134
Exhaustion and apathy.....	29
nervousness with	30
Eye, an evidence of Nature's passion for accuracy.....	328
its importance to the moving animal.....	325
preservation of the possibility of normal function of....	346
turning of upward and outward.....	126
Eyeglasses and errors of refraction.....	248
Eyes, none mathematically perfect.....	330
Eyestrain a cause of ocular diseases.....	348
a cause of insomnia	173
a disease of civilization.....	44
a producer of crime.....	342

Eyestrain a producer of nervous and systemic reflexes.....	82
and astigmatism	331
and civilization	325
and hyperopia	331
and its reflexes, a preparer of morbid soil.....	42
and myopia.....	330
and reflex ocular neuroses, philosophy of.....	23
AND THE LITERARY LIFE.....	9
cardiac complications of.....	26
diarrheal diseases due to.....	26
disorders, knowledge of the relief of due to the laity....	337
facial expression of.....	33
hurt of, greatest in females.....	44
increase of, by "near-work" occupations.....	357
in epilepsy	342
in Mrs. Carlyle's case.....	234
in Nietzsche, havoc wrought by	19
in savage and semibarbarous life.....	349
in schools, the role of.....	346
insomnia of	24
nonrecognition of, a cause of suffering.....	122
of Margaret Fuller Ossoli.....	274
pathogenic results of.....	51
pathologic significance of.....	8
philosophy of the "nervousness" of.....	29
probable influence of on history.....	349
production of morbid reflexes by.....	30
relief of symptoms by correction of.....	25
sequels, influence of, on the growth of spas and health resorts	34
sufferers' need of physical activity.....	29
symptoms common in.....	174
symptoms connected with the insomnia of.....	32, 33
symptoms due to	181, 235, 312
symptoms of (<i>see symptoms of eyestrain</i>).....	25
the cause of Mrs. Carlyle's illness.....	235
the cause of Parkman's illness.....	142

Eyestrain the result of excessive and morbid ocular demands.	333
the role of in civilization.....	336
vomiting caused by.....	26
Whittier's suffering caused by.....	265
Facial expression in eyestrain.....	33
Food and nutrition, reversion of instinct for.....	20
FRANCIS PARKMAN	131
Froude's and Jewsbury's misinterpretations.....	226
Fuller and Nietzsche, evils caused by incorrect glasses in....	273
Fuller, Margaret (Ossoli).....	271
clinical facts concerning.....	272, 275, 277
death of	281
early life of.....	271
ill-health due to eyestrain.....	274
limitation of literary work through eyestrain.....	280
ocular labor a cause of increased suffering in winter....	279
pathos of the life of.....	19
the literary work of.....	50
the symptoms of.....	11
Functional disease.....	15
recognition of.....	221
Gastric symptoms.....	15
"Gastrodynia"	15
Genius and eyestrain.....	351
and madness.....	46
GEORGE ELIOT.....	57
Glasses, causes of failure to give relief.....	359
incorrect, evil results.....	273
"Great wits and madness".....	46
Health resorts brought into being through attempt to cure eyestrain	35
Headaches	26, 27
"hereditary" theory of.....	39
proportioned to the use of eyes.....	117
Heart, irregular rhythm.....	26
lapsed beats	26
palpitation of, a result of eyestrain.....	26

Heart symptoms of Whittier, Huxley and Wagner.....	262
trouble, Parkman's so-called.....	165
HERBERT SPENCER.....	241
Heredity theory, the.....	38
"History of the Conspiracy of Pontiac".....	150
Homeopathy, Mrs. Carlyle's opinion of.....	224
Honorary degrees, the value of.....	335
Huxley's exasperation and intensity.....	48
only relief	27
<i>Rattlesnake</i> expedition	28
sufferings	18
symptoms	10
"Hyperexophoria"	125
Hyperopia and eyestrain.....	331
in criminals, high.....	29
Iles on the health of Herbert Spencer.....	241
Inability to use the eyes at near range.....	177
Inaccuracies of patients and of their physicians.....	13
In-door and out-of-door life.....	65
Influence of disease on character of work.....	47
Influenzas or colds.....	35
cause of	36
Innervation, muscle.....	40
of ametropic eye.....	40
Innervational strain, muscular and.....	23
Insanity, and genius.....	46
fear of	30
the ocular factor in.....	343
Insomnia	21, 22, 23, 24
caused by eyestrain.....	24, 173
symptoms connected with the.....	32, 33
of Nietzsche	321
Instinct for food and nutrition, reversion of.....	20
Intellect and vision, their interrelation.....	326
Interconnection of nasal and ocular diseases.....	37, 234
Intercurrent diseases.....	35
paretic symptoms.....	37

Interrelation of intellect and eyestrain.....	326
Irreconcilable hypotheses in Mrs. Carlyle's case.....	230
"Irritability" and "nervousness".....	27
Irritation, cerebral, and morbid intellectuality.....	319
JANE WELSH CARLYLE.....	205
LEWES, GEORGE HENRY.....	87
death of	19
health of.....	87
medical profession in its aspect to the case of.....	88
Lewes's clinical symptoms.....	11, 89
plan of life	28
Literary life, eyestrain and the	9
work, Parkman's method of.....	158
Lost time and opportunity, the result in.....	17
Malfunction of eyes and its effect.....	330
MARGARET FULLER OSSOLI.....	271
Medical profession, attitude of, to the illness of the Carlyles.	236
Migraine	26
loose application of the word.....	312
Möbius on the life, character and illness of Nietzsche..	285, 299
Muscle innervation	40
Muscular and innervational strain.....	23
Myopia and eyestrain	330
Mystery of the disease of the fourteen, the strange.....	12
Nasal and ocular diseases, interconnection of.....	37
Nature, her passion for accuracy shown in structure and working of the eye.....	328
"Neptune girdle" in the treatment of Wagner.....	99
Neurasthenia and eyestrain.....	221
"Nervousness," and irritability.....	27
of eyestrain, philosophy of the.....	29
with exhaustion and apathy.....	30
Neuroses, reflex ocular.....	37
and eyestrain, philosophy of.....	23
NIETZSCHE	285
agony endured by.....	21
clinical facts in the life of.....	286, 302

Nietzsche, havoc wrought by eyestrain in.....	19
Nietzsche's astigmatism and myopia.....	310
cold, influenza, rheumatism, etc.....	312
condition after "the attack".....	320
father, cause of death of.....	285
heredity	38
"horrible earnestness".....	316
mental wrecking.....	28
migraine	313
ocular history	307
personal character	298
plan of life.....	28
sudden changes from violent suffering to relief and apparent health.....	314
symptoms	12, 13, 31
caused and intensified by ocular work, relieved by walking and ocular rest	301
synchronous and equal suffering of eyes, head, and digestive system	301
tragic fate	50
writings on sickness and health	320
Night work	24
Nutrition, reversion of instinct for food and.....	20
Occupations not entailing eyestrain.....	45
Ocular function, results of morbid.....	339
symptoms	31, 32
diseases, interconnection of nasal and.....	37
history of Nietzsche.....	307
labor a cause of greater suffering in winter.....	279
neuroses, reflex.....	37, 340
Officialdom in medical science.....	334
Old age, disappearance of symptoms at the beginning of..	16, 17
On the Gridiron and by Means of the Gridiron.....	149
Opium eating, De Quincey's.....	17
Pain in brain.....	20
Palpitation of heart.....	26
Paretic symptoms.....	37

Parkman, Francis	131
" A Half Century of Conflict ".....	160
and Darwin, exposition of same error in the cases of...	142
and the medical profession.....	190
as a law student.....	36
autobiographic letter	193
beginning of his eye affection.....	137
fighting it out with " the Enemy ".....	156
" France in the New World ".....	158
" The Oregon Trail ".....	138
Parkman's alleged insanity	169
athleticism	28, 146
blepharitis and meibomian cysts.....	176
cerebral reflexes.....	164, 179
condition, Farnham's misapprehension of.....	141
craving for exercise.....	134
disease, the true nature of.....	185
devotion to chemical experiment	133
to horticulture	28, 153
dysentery	139
early years	131, 132, 144
energy	156
estimate of his own case.....	162
eyes	173
eyestrain, cause of.....	184
fatal illness	158
" gridiron "	149, 151
habits of study	134
headaches	132
inability to use the eyes at near range.....	177
increase of suffering.....	157
insomnia	173
life with the Indians.....	140
limited production.....	49
method of literary work.....	158, 161
muscular activity.....	144
ocular symptoms.....	182

Parkman's periods of pain and disability.....	152
photophobia	174
blepharitis and meibomian cysts.....	31
plan of life.....	28
presbyopia, completion of.....	183
pursuit of historical research.....	138
sudden failure in health.....	136
symptoms	11
increase of.....	149
rheumatism and lameness	166
socalled heart trouble.....	165
student life	134
symptoms suggesting insanity.....	171
training for history writing	135, 137
truancy	132
waste of power and time.....	19
Pathogenic results of eyestrain.....	51
Patients' explanations of ocularly caused reflexes.....	261
Philosophy of eyestrain and of reflex ocular neuroses.....	23
of sleep	23
of the "nervousness" of eyestrain.....	29
or physiology of the insomnia of eyestrain.....	24
Photography and sight, a comparison.....	329
Physical activity, eyestrain sufferer's need of.....	29
Physicians' estimate of Parkman's case.....	171
inaccuracies and those of their patients.....	13
opinions of Nietzsche's case, the.....	315
skepticism as to cause of symptoms.....	125
Physiologic cause of intellectual intensity.....	318
truth ignored.....	40
Physiology or the philosophy of the insomnia of eyestrain..	24
PREFACE	5
Presbyopia	79
in Parkman's case	183
in Whittier's case	264
influence of in eyestrain.....	218
the role of in eyestrain.....	348

Prevention, laws of.....	42
Production of Nietzsche, great amount.....	318
Professional blunder, the.....	50
lesson, the.....	190
neglect, the cause for.....	6
Psychology of Parkman's boyhood compared with that of De Quincey and Darwin	133
Quackeries, Mrs. Carlyle's estimate of.....	225
Quackery, professional responsibility for the growth of.....	8
Quack opticians, their vogue due to professional neglect....	338
Reaction against ocular and cerebral injury, Parkman's....	143
Reactions of organism under "insult" of eyestrain.....	181
Reflex, digestional	24
neuroses, epilepsy and chorea	343
ocular neuroses	37, 340
crises of symptoms in.....	182
Reflexes from eyestrain	339
from high or low defects.....	332
morbid, production of by eyestrain.....	30
nervous and systemic, eyestrain a producer of.....	82
ocular, ill-health due to.....	261
Parkman's cerebral.....	179
Refraction, lack of proper aids in.....	347
the need of accurate.....	337
Refractionists, good done by the	334
Relation of near-work and cerebral and systemic suffering..	276
Relationship of Wagner's ocular and digestive symptoms....	127
Result in lost time and opportunity.....	17
in suffering	20
Rheumatic affections	38
Rheumatism, of Nietzsche, Mrs. Carlyle and others.....	38
Role of eyestrain.....	52
Sadism, alleged, of Nietzsche.....	319
Seeing, accurate, the sine qua non of organismal life.....	41
Sickheadache	20, 21, 25
a cause of other symptoms.....	123
and suffering of George Eliot.....	59

Sickheadache, cure of by relief of eyestrain.....	315
cured by spectacles.....	123
disappearance of, at the approach of presbyopia.....	124
of Mrs. Carlyle.....	39
Sight and photography, a comparison.....	329
and touch, a comparison.....	326
delicacy of the process.....	327
its necessity in the struggle for existence.....	326
SIXTY-EIGHT REASONS WHY "GLASSES DID NOT GIVE RELIEF"	359
Sleep, Philosophy of.....	23
Spectacles, in Wagner's case.....	124
scorn of.....	40
Spencer, Herbert	241
avoidance of suffering by.....	19
the health of.....	II, 241
the "synthesizing philosophy" of.....	49
Spencer's avoidance of danger by recreation.....	28
case, symptoms and causes in.....	244
method of work.....	245
ocular symptoms.....	248
Suffering, Browning's method of avoiding.....	18
caused by eyestrain—in Beethoven's case.....	352
in Browning's case.....	353
in Carlyle's case.....	353, 355
in Carlyle's, Mrs., case.....	7, 356
in Darwin's case.....	354
in De Quincey's case.....	353, 355
in George Eliot's and Lewes' cases.....	356
in Huxley's case.....	18, 353
in Nietzsche's case.....	356
in Parkman's case.....	354
in Spencer's case.....	354
in Wagner's case.....	352
in Whittier's case.....	355
of Mrs. Carlyle from colds or influenzas.....	35
Spencer's avoidance of.....	19
the result in.....	20

Symptoms and causes in Herbert Spencer's case.....	244
caused and intensified by ocular work and relieved by	
walking and ocular rest.....	301
connected with the insomnia of eyestrain, some other.	32, 33
disappearance of at the beginning of old age.....	16, 17
gastric	15
of eyestrain	10, 16, 174
biliousness	25
digestional reflex.....	24
dyspepsia	25
headaches	26, 27
insomnia	21, 22, 23, 24
ocular	31, 32
pain in brain.....	20
relief of	14, 25
sickheadache	20, 21, 25
vomiting	20, 26
in Browning's case.....	10
in Carlyle's case	10
in Darwin's case	10
in De Quincey's case.....	10
in George Eliot's case	11
in Herbert Spencer's case	11
in Huxley's case	10
in Lewes' case	11
in Margaret Fuller's case	11
in Mrs. Carlyle's case.....	10, 13
in Nietzsche's case.....	12, 13
in Parkman's case	11
in Wagner's case	11, 32
in Whittier's case	11
origin of	14
paretic	37
variation of the	16
The professional lesson.....	190
Touch and sight, a comparison	326
Truancy, play, and athletics of intellectual boys.....	133

